# "A STUDY TO ASSESS THE EFFECTIVENESS OF PELVIC ROCKING EXERCISE IN PRIMARY DYSMENORRHOEA AMONG ADOLESCENT SCHOOL GIRLS AT GOVERNMENT GIRLS HIGHER SECONDARY SCHOOL, CHENNAI."

**MSC (NURSING) DEGREE EXAMINATION**

**BRANCH – III OBSTETRICS AND GYNAECOLOGICAL NURSING**

**COLLEGE OF NURSING**

**MADRAS MEDICAL COLLEGE, CHENNAI-03.**

*A Dissertation submitted to*

**THE TAMILNADU DR. M.G.R. MEDICAL UNIVERSITY,**

**CHENNAI - 600 032.**

*In partial fulfillment of the requirements for the degree of*

**MASTER OF SCIENCE IN NURSING**

**APRIL-2014**

# CERTIFICATE

This is to certify that this dissertation titled, **"A study to assess the effectiveness of pelvic rocking exercise in primary dysmenorrhoea among adolescent school girls at government girls higher secondary school, chennai." i**s a bonafide work done by **Ms.S.JOTHIYAMMAL, M.Sc(N) II year,** College of Nursing, Madras Medical College, Chennai-03, submitted to **The Tamil Nadu Dr. M.G.R. Medical University, Chennai,** in partial fulfillment of the university rules and regulations towards the award of the degree of **Master of Science in Nursing. Branch – III Obstetrics And Gynaecological Nursing**, under our guidance and supervision during academic period from 2012-2014.

**DR.MS.R.LAKSHMI,M.Sc (N), Ph.D.,**
Principal,
College of Nursing,
Madras Medical College,
Chennai-03.

**DR.R.JEYARAMAN,M.S,Mch**
Dean,
Madras Medical College
Rajiv Gandhi Govt.General Hospital,
Chennai-03.

# ACKNOWLEDGEMENT

***"Blessed is the man who trusts in the Lord and has made the Lord his hope and confidence."***

***-Jeremiah:17.7***

***"I will praise you ,O Lord my God , with all my heart ,and I will glorify your name forevermore".***

***-Pslam:86.12***

My most heartfelt gratitude is articulated to **THE GOD ALMIGHTY** for lavishing his blessing and grace for the physical and mental health given to complete the dissertation successfully.The essence of all beautiful art is gratitude .gratitude can never be expressed in words but this is only deep gratitude perception ,which makes the words flow from ones inner heart.

The dissertation work was conducted with the assistant of many **professional experts**. The investigator is whole heartedly indebted to her research advisors for their comprehensive assistance in various forms.

I Wish to express my sincere thanks to **Dr.V.Kanagasabai,M.D., Dean,** Madras Medical College, Rajiv Gandhi Government General Hospital, Chennai -3 for providing necessary facilities and extending support to conduct the study,and also I would like to thank **Dr.R.Jeyaraman,M.S.Mch, Dean** MMC, Chennai for his timely help.

It is my longest desire to express my profound gratitude and exclusive thanks to **Dr.Ms.R.Lakshmi, M .Sc(N).,Ph.D., Principal,** College Of Nursing, Madras Medical College, Chennai .It is a matter of fact that without her esteemed suggestions, highly scholarly touch, and piercing insight at every stage of the study, this work could not been presented in the manner it has been made .

It is my pleasure and privilege and heartful gratitude and indebtedness to my esteemed teacher **Mrs.R.Saroja, M.Sc (N) ,Reader , Head of Department of Obstetrics And Gynaecology,** College Of Nursing, Madras Medical College for her valuable and expert guidance,thought provoking stimulation ,encouragement ,critical evaluation ,untiring efforts support and timely help, inspite of her busy schedule ,continually motivated me for the successful completion of this dissertation.

It is my pleasure and privilege to express my deep sense to gratitude to **Dr.Meena Chander,M.D,DGO, Director ,**Institute of Obstetrics and Gynaecology ,Egmore for permitting me to conduct the study.

I express my sincere and heartfelt gratitude to **Dr.M. Geetha. M.D,D.G.O ., Asst.Professor,** Institute of Obstetrics And Gynaecology ,for her expert guidance and proficiency help through out his endeavor.

I am grateful to **Dr.Mrs.V.Kumari,M.Sc (N).,Ph.D.,Reader,** College Of Nursing ,Madras Medical College, Chennai for her constant source of inspiration and guidance throughout the study.

I am grateful to **Mrs.V.Jayanthi ,M.Sc(N).**,Lecturer, College of Nursing, Madras Medical College, Chennai for her constant support and guidance throughout the study.

I extend my thanks to the dissertation committee members for their healthy criticisms, supportive suggestions which moulded the research. I take this opportunity to thank **All Faculty Members** of College of nursing , Madras Medical College,Chennai-3 for the consultant guidance and timely support by them in all possible manner to bring out this dissertation.

I wish to extend my gratitude and special credits to **Dr.A.Venkatesan,M.Sc.(stat)., PGDCA., Lecturer in statistics** for his valuable guidance and help in statistical analysis of the data which is the core of the study. I extend my thanks to one who edited the English version.

I am thankful to the librarian **Mr.Ravi,B.A.,B.L.I.Sc ,Librarian** , College of Nursing, Madras Medical College,Chennai-3 who helped in availing library facility and also to Librarians of Institute of obstetrics and gynaecology, Madras Medical College, and Tamil Nadu Dr.MGR Medical University, Chennai for the cooperation in collecting the related literature for this study.

I extend my thanks to the Dissertation Committee Members for their healthy criticism ,supportive suggestions which moulded the research. My heartfelt thanks to my classmates and friends specially to Mrs.Vimala, Mrs.Appammmal, Ms.Kalaivani, Mrs.James Beula for their valuable guidance and support throughout the study.

I also extend my deepest sense of gratitude to The Director of School Education, Chennai. For allowing me to conduct my study in this prestige institution.

I also extend my sense of gratitude to The Head Master, Government Higher Secondary School, Egmore, Chennai. Who supported me to conduct my study in this prestige institution.

My special thanks and gratitude goes to all the Adolescent girls, who are cause and motivation for this study.

Taking this opportunity ,I would like to pen down the pride ,I feel for my greatest source of strength ,my lovable husband **Mr. A. Rajkumar, BSNL,** my loving Daughter **Ms.R.Sabitha,B.E.,**and my son **Dr.R.Hemnath, M.B.B.S.,** my sister **Mrs.S. Kasthuri,** my brother **Mr.Venkatesh, B.E.,** and my sister-in-law **Dr. Mrs. Sugunalakshmi, M.Sc.,Ph.D.,** and for their support and encouragement during this study.

My fondest thanks are expressed from my heart to my dear most colleagues for all their support ,guidance and help given to me during my study period.

I am thankful to all my relatives and well wishers for their help and best wishes at all times.

I express the deepest sense of gratitude to all the patients included in the study and their relatives for their co-operation and help without which it would have been impossible to conduct the study.

I am very obliged to **Mr.Huzain computers** and **Mr.Ramesh ,MSM Xerox** centre for their kind cooperation to complete my dissertation in time by getting photocopies ,computerizing and binding of my dissertation papers.

Lastly I express my thanks one and all who directly or indirectly helped in successful completion of this dissertation.

# ABSTRACT

**INTRODUCTION:** Childbirth is one of the most important events in a woman's life. The wonder of motherhood is the enjoyable journey that is felt only by the mother after giving birth of rebirth by giving birth to a child. A mother, even though she is born earlier in this world, perceives an experience. postnatal period is the most vulnerable period for the mother and the newborn baby. Many mothers experience physiological, psychological and social changes during this period. There are many types of postnatal ailments experienced by the mother such as afterpains, irregular vaginal bleeding, leucorrhoea, cervical ectopy (erosion), backache, retroversion of the uterus, anaemia, breast problems and episiotomy discomforts.

During post natal period , mothers experience numerous physiological and psychological changes. Main changes occur for uterus is involution of the uterus and descent of the fundus. Involution begins immediately after the delivery of the placenta. During involution uterine muscles contracts firmly around the maternal blood vessels at the area where the placenta is attached. This contraction controls bleeding from the area when the placenta is separated.

These uterine contractions called after pains. Afterpains refers to the infrequent, spasmodic pain felt in the lower abdomen after delivery for a variable period of 2-4 days. These abdominal cramps are caused by postpartum contractions of the uterus as it shrinks back to its pre-pregnancy size and location. Presence of blood clots or bits of the afterbirth leads to hypertonic contractions of the uterus in an attempt to expel them. The uterus loses muscle tone during subsequent pregnancies due to its contraction-relaxation cycle and causes afterpains, and is vigorous pain in multiparous woman.[2]

Most of the post natal women had afterpains . So it was found important to reduce the afterpains and hastened the process of involution of uterus.

METHODOLOGY: This study was coducted to assess the effectiveness of prone kegel exercise and prone position on afterpains and involution of uterus among post natal mothers.

The main objectives of the study was to assess the effectiveness of the afterpain and involution of uterus after administration of kegel exercise and prone position to the experimental group and to compare the pre and post test level of afterpains and involution of uterus among experimental group and control group of postnatalmothers. Research design chosen for this study was Quasi experimental design , two group pre test and post test design. The conceptual frame work used for this study is a open system model based on general system model approach developed by Ludwig Von Bertanlanffy (1968) and modified by J. W.Kenny. The tool used for the study includes questionnaire to assess the level of afterpains pain by numerical pain scale and involution of uterus assessed by measuring the fundal height.

In control group-level of afterpains and involution of uterus will be assessed every day morning and evening for 3days through numerical pain rating scale and clinical proforma and also routine care provided. In experimental group –Pre intervention pain score and involution of uterus will be assessed among postnatal mothers through numerical pain rating scale and measuring the fundal height each day morning before giving interventions. Process to making the subjects to do kegel exercise for 10seconds for 3 times a day , 10repetitions each time for three days and also made to lie in prone position for 3-5 minutes for 3times a day at 30 minutes interval , 3repetition each time for three days. The post intervention pain score and involution of uterus will be assessed by the same tools each day.In control group routine care was provided.

The obtained data was analysed by descriptive and inferential statistics using chi-square and students independent t test. The study revealed that kegel exercise and prone position have significant reduction of afterpains as t` test value = 15.12 significant at p= 0.00 level and improvement of involution of uterus as t` value= 9.54 significant at p= 0.001 level.

# TABLE OF CONTENTS

# LIST OF TABLES

## LIST OF FIGURES

## LIST OF APPENDICES

# CHAPTER-I

*"A girl in every woman proceeds and shapes the woman in her. And to the extent to which girlhood is denied, liberated, fostered womanhood Perishes or prospers".*

Adolescence is the transition period from childhood to adulthood and it is characterized by a spurt in physical, endocrine, emotional and mental growth. Their nature has a change from complete dependence to relative independence. The period of adolescence for a girl is a period of physical and psychological preparation for safe motherhood. The health of the adolescent girls are not only influenced on their own health, but also the health of the future population. Almost a quarter of the population comprises of girls below 20 years.

One of the major physiological changes that take place in the adolescent girls are the onset of menarche. It is often associated with the problems of irregular menstruation, excessive bleeding and Dysmenorrhoea. That dysrnenorrhoea is one of the common problems faced by adolescent girls.

A certain amount of discomfort during the first or second day of menstrual flow is extremely common in adolescent girls. Most of the girls have experience of cramping abdominal pain, backache, leg ache. But in few girls the pain is intolerable.

Dysmenorrhoea is a menstrual disorder characterized by painful cramps in the lower abdomen. It affects about 20% to 90% of adolescent girls in some way. It is also accompanied by vomiting, diarrhea, dizziness or fainting. Dysmenorrhoea can feature different types of pain, including sharp, throbbing, dull, nauseating, burning or shooting pain.The pain is concentrated in the lower abdomen, in the umbilical region or the supra pubic region of the abdomen. It is commonly felt in the right or lower

abdomen. It may radiate to thighs and lower back. It is often associated with hormonal changes in the body.

Molecular compounds called prostaglandins are released during menstruation due to the destruction of the endometrial cells. This release of prostaglandins and other inflammatory mediators causes the uterus to contract. These substances are thought to be a major factor in Dysmenorrhoea.The contractions and the temporary oxygen deprivation to nearby tissues is responsible for pain or cramps during menstruation.

"Dysmenorrhoea is a major problem in adolescent girls, " said **Pamela.J. Murray** a chief of adolescent medicine at children's hospital in Pittsburgh. This affects the quality of life for one or two days a month and about two to three weeks in a year. Even though there are more drugs and diagnostic tests for Dysmenorrhoea, this remains as the leading cause of school absences among teenage girls.

In olden days the adolescent girls had the special position in the family. On those days the family is of joint type with grandmother and others. And the mother of the family is also a housewife taking care of the girls in a careful manner. They got the psychological support and tender loving care from the family members. And the adolescent girls were not sent from their dwelling places even to the school. So during their menstruation the girls were given complete rest and protein and calcium rich diet also given in cultural practice. So this helps the girl to have the muscle relaxation and Dysmenorrhoea was not a problem in those days.

But in these present days, the adolescent girls are full of commitments. And now- a- days family is of nuclear type with both of the father and mother as working personnel. There is no one to take care of her in the family. And the girls were travelling to the school and they also indulge in extracurricular activities such as dance class, music class and sports class. The girls were attending menarche even at primary school

levels. Even during their, menstrual period they were continuously working and they have the stress. They have no time to concentrate on their own health. They hesitate to eat a nutritious diet. They have lower pain tolerance capacity. So Dysmenorrhoea remains as the leading problem in adolescent girls in the present situation.

Medications had been used by 58% of the subjects to treat their symptoms, but most of these women had used only simple analgesics. These medications were considered effective in only 53% to 59% of those using them. They regularly use analgesics or antispasmodics during menstruation as a treatment for Dysmenorrhoea .Many women accept Dysmenorrhoea as a normal part of their female constitution, they may not believe in the treatment for Dysmenorrhoea.

In India in Gwalior in March 2010 it is reported in Indian journal of community medicine, the prevalence of Dysmenorrhoea in high school adolescent girls were found to be 79.67%and most of them 37.96% suffered from severe Dysmenorrhoea.

In Andhra Pradesh a study in the year of 2007 by **Atchuta Kamehwar Rao,** a comparison was made between urban and rural areas of impact of Dysmenorrhoea among adolescent girls and it is depicted in the table below

**Table-1: Impact of Dysmenorrhoea in adolescent girls in urban and rural area in Andhra Pradesh.**

| Sickness absenteeism | Urban areas in % | Rural areas in % |
|---|---|---|
| Absent from class | 71.6 | 20.5 |
| Absence from exams | 35.8 | 18 |
| Assignment not completed | 52.9 | 13.6 |
| Reprimanded by teachers | 67.9 | 47.7 |

The percentage of Dysmenorrhoea is increasing and rising in nature.

Several pharmacological and non pharmacological approaches to alleviate Dysmenorrhoea exist. These include NSAID, oral contraceptive pills, and in non pharmacological there are acupuncture, biofeedback, relaxation technique, massage, aromatherapy, and the use of certain herbs. Even though there are numerous approaches it is cost effective and some has its own side effects. One of the simplest approaches that can be used in the prevention of Dysmenorrhoea is the ***pelvic rocking exercises*** with a Swiss ball.

This exercise is very easy to practice and this Swiss ball is a big ball filled with air for training and constructed of elastic soft PVC (Poly vinyl chloride) with the diameter of approximately 35 cm to 85 cm. The exercise can be easily done by bouncing and rotating the hips in a circular motion in the ball. The benefit of exercising with an exercise ball as opposed to exercising directly on a hard, flat surface is that the body responds to the instability of the ball to remain balanced, engaging many more muscles. Those muscles become stronger over time to keep balance.

Pelvic rocking exercise with the ball has been found to reduce menstrual discomfort through increased vasodilatation, and subsequent decreased ischemia, release of endogenous opiates, especially the beta endomorphins and suppression of prostaglandins and shunting of blood flow from viscera resulting in pelvic congestion, thus reduces the pain. So this exercise helps in soothing an aching back, relieving pain, improving flexibility, restoring mobility, increasing circulation in the spinal tissues and joints, relaxing tense back muscles and maintaining good abdominal tone.

## 1.1 NEED FOR THE STUDY

Dysmenorrhoea causes loss of quality of life This is a study in Indian journal of community medicine in October 2008 in which a comparison between urban and rural areas in Andhra Pradesh is stated

**Table-2: Quality of life losses among the adolescent girls with Dysmenorrhoea at Andhra Pradesh**

| Life facet | Urban % | Rural % |
|---|---|---|
| Poor general adoption | 58.5 | 38.6 |
| Loss of physical independence | 54.7 | 15.9 |
| Poor work satisfaction | 66 | 34 |
| Personal relationship not good | 47 | 25 |
| Social interaction not good | 50.1 | 13.6 |
| Physical activity not good | 71.7 | 25 |
| Leisure activity not good | 41.5 | 27 |

A study conducted by **Banikarim et al (2006)** reported that activities affected by Dysmenorrhoea as class concentration 59%, sports 51%, class participation (59%), socialization (46%), home work (35%), test taking skill (36%), and grades (29%).

"How can I get relief"? Is one of the common question that comes to those suffering from Dysmenorrhoea. Conventional treatment of Dysmenorrhoea usually consists of non-steroidal anti-inflammatory drugs, but they are not always effective and may cause certain side effects such as gastric ulcer and peptic u1cer. 10.30% of people who receive NSAIDS develop stomach ulcers related by Indian Medical Association New Delhi branch president R. R. Agarwal.

Morbidity due to Dysmenorrhoea represents a substantial public health burden, Based on the estimates from the US census, approximately two million adolescents or 15% of total adolescents experience severe Dysmenorrhoea.A survey in Norway showed that 14% of adolescent girls have the symptom of severe Dysmenorrhoea and they stay away from the school, In Australia in the study of menstrual disorders of teenagers showed that 90% of adolescent girls experienced Dysmenorrhoea. Similarly the study in the UK of 1266 girls 19% of adolescent girls experienced severe symptoms of Dysmenorrhoea. A population-based study in Canada found

that 60% of respondents met diagnostic criteria for primary Dysmenorrhoea. More than half of these women had moderate or severe pain, and 51% also reported that Dysmenorrhoea symptoms limited their activities.

During school health programme conducted by the community health nursing department, College of nursing, Madras Medical College it is found that adolescent girls have various problems and the most prevalent is dysmenorrhoea. They complain about the pain and feel depressed. At the adolescent stage they are not able to cope with the changes that occurs in the body. Hence a preventive aspect of Dysmenorrhoea is very important.One of the preventive aspects is pelvic rocking exercises with a Swiss ball. The exercise can be done very effectively with this ball Thus the study of effectiveness of pelvic rocking exercises with Swiss ball among the girls were more significant.

## 1.2 STATEMENT OF PROBLEM

**"A study to assess the effectiveness of Pelvic Rocking exercise in Primary Dysmenorrhoea among adolescent school girls at Government Girls Higher Secondary School, Egmore, Chennai."**

## 1.3 OBJECTIVES

- To assess the level of primary Dysmenorrhoea among school girls before pelvic rocking exercises.
- To assess the level of primary Dysmenorrhoea among school girls after pelvic rocking exercises.
- To associate the level of primary Dysmenorrhoea and the selected demographic variables of school girls before and after pelvic rocking exercises.

## 1.4 OPERATIONAL DEFINITION

***Dysmenorrhoea***

It refers to the menstrual pain severe enough to limit daily activities during the period of menstruation as measured by Modified Mc Gill pain questionnaire.

***Pelvic rocking exercise***

It refers to the exercise in which the girls rotate the hip by sitting on the ball so that the pelvis rocks back and forth.

***Effectiveness:***

It refers to outcome of pelvic rocking exercises on Dysmenorrhoea among the school girls. It is measured in terms of post test and pre test scores.

***Adolescent school girls*:**

It refers to school girls to the age of 13-18 years who had attained menarche and studying $8^{th}$-$12^{th}$- standards.

## 1.5 ASSUMPTION

Pelvic rocking exercise will reduce the pain in Dysmenorrhoea among the adolescent girls.

## 1.6 HYPOTHESIS

- There will be a significant relationship between Dysmenorrhoea scores before and after pelvic rocking exercises among school girls.
- There will be the significant relationship between Dysmenorrhoea scores and selected demographic variables before and after pelvic rocking exercises among school girls

# CHAPTER-II

# REVIEW O F LITERATURE

Review of literature refers to an extensive and systematic examination of publications relevant to the research project. Review of literature is a key step in a research process. Nursing research is considered as a continuing process in which knowledge gained from earlier studies is an integral part of research.

According to **Polit and Hungler** the review of literature has defined a broad, comprehensive in depth, systematic and critical review of scholarly publications, unscholarly published print materials, audiovisual materials and visual communications. An extensive review of literature relevant to the research topic was done to gain insight and to collect maximum information for laying the foundation of the study.

**The review consists of two parts.**

2.1 - Review related to

- Prevalence of Dysmenorrhoea.
- Effectiveness of Exercise on Dysmenorrhoea.

2.2 - Conceptual Framework

## 2.1. REVIEW RELATED TO -

## PREVALENCE OF DYSMENORRHOEA

***Anil K Agarwal, et al (2010)*** conducted a Study of Dysmenorrhoea During Menstruation in Adolescent Girls in India. The prevalence of Dysmenorrhoea in adolescent girls were found to be 79.67%. Most of them, 37.96%, suffered regularly from Dysmenorrhoea severity. The three most common symptoms present on both days, that is, the day before and first day of menstruation were lethargy and tiredness (first), depression (second) and inability to concentrate on work (third), whereas

the ranking of these symptoms on the day after the stoppage of menstruation showed depression as the first most common symptom.

***Gulsen Eryilmaz, et al (2010)*** evaluated the effect of menstrual pain duration and severity on performance and attitudes towards family and friends among Turkish female adolescents.The setting was the 26 high schools located in Erzurum,Turkey. A total of 1951 single female adolescents, aged 13to18 years, was selected for this study. The effect of primary Dysmenorrhoea is on female adolescent's relationships with families,friends and school performance. The prevalence of Dysmenorrhoea was higher among female adolescents (68.1to72. 2%). The pain, mostly lasted for one to three days (56.6%), followed by less than one day (23.5%) and more than 4 days (14.9%), respectively. School performance was negatively affected by Dysmenorrhoea.

***Eryilmaz G, et al (2010)*** conducted a study on Prevalence of Dysmenorrhoea and its effect on quality of life among a group of female university students in turkey. Social and psychological parameters such as social functioning, role emotional, and mental health was affected due to this fact.In addition, with the increasing severity of Dysmenorrhoea, the average scores received from all the domains showed decreased quality of life. The prevalence of Dysmenorrhoea among female students was relatively high throughout their study, reaching almost three-quarters (72.7%).

***Ortiz MI,et.al (2010)*** evaluated the prevalence of Dysmenorrhoea among Mexican university students. The prevalence of Dysmenorrhoea among Mexican university students was high and the pain that their suffering were severe, disabling and resulted in depression. The pain has not often been completely relieved despite the use of medication. It is necessary to improve the options for relief pain caused by Dysmenorrhoea and minimize the impact of Dysmenorrhoea on social, economic and school activities.

***Enferm Clinet, et al (2010)*** determined the prevalence of Dysmenorrhoea in the Torrijos area of Toledo, the social-demographic and individual characteristics that could be associated with it, and the self-care measures and self-medication used. A total of 290 women were included, whose mean age was 29.8 years. The prevalence was 55.9% (162). The pain intensity was 4.96/10. They found a higher frequency in younger women 77.9 (81) vs. 34.1% (29), nulliparous and alcohol consumers. In the cluster analysis just the age remained associated. Normal daily activities were affected in 36.9% (107) of the women interviewed and 34.1% (99) had consulted a doctor. A total of 72.1% (209) have taken medicines (NSAIDs and analgesics were commonly used.

***Wong LP, et al (2010)*** determined the prevalence of Dysmenorrhoea, its impact and the treatment-seeking behavior of an adolescent Asian girl in the Federal Territory of Kuala Lumpur, Malaysia. Of all, 74.5% of the girls who had reached menarche had Dysmenorrhoea; 51.7% of these girls reported that it affected their concentration in class; 50.2% that it restricted their social activities; 21.5% that it caused them to absence from the school; and 12.0% that it caused poor school performance. Ethnicity and form at school were significantly associated with poorer concentration, absenteeism, and restriction of social and recreational activities attributed to Dysmenorrhoea. Only 12.0% had consulted a physician, and 53.3% did nothing about their conditions. There were ethnic differences in the prevalence, impact, and management of Dysmenorrhoea. There is a need for culturally-specific education regarding menstruation-related conditions in the school curriculum.

***Parker MA, et al (2010)*** examined the typical experience of menstruation for senior high school girls and determined the experience considerable menstrual disturbance that could require further investigation and management of underlying pathology. Typical menstruation in adolescence includes pain (93%), cramping (71%), premenstrual symptoms

(96%) and mood disturbance (73%). Highly significant associations were found between increasing severity of pain, number of menstrual-related symptoms, interference with life activities and school absence. These associations indicate that approximately 25% of the sample had marked menstrual disturbance: 21% experienced severe pain; 26% suffering five or more symptoms ≥ 24% reporting moderate to high interference with four out of nine life activities. Approximately 10% reported atypical symptoms associated with menstruations. Diagnosis of menstrual pathology in the sample was low, even though 33% had seen a General Practitioner and 9% had been referred to a specialist.

***Li Ping Wong, et al (2009)*** determined the prevalence of Dysmenorrhoea, its impact and the treatment-seeking behavior of adolescent Asian girls. A cross-sectional study with 1092 girls from Malaysia. Overall, 74.5% of the girls who had reached menarche had Dysmenorrhoea; 51.7% of these girls reported that it affected their concentration in class; 50.2% that it restricted their social activities; 21.5% that it caused them to miss school; and 12.0% that it caused poor school performance in school education. Only 12.0% had consulted a physician, and 53.3% did nothing about their conditions.

***Chang YT, et al (2009)*** assessed menstrual attitudes and menstrual distress and investigate factors associated with menstrual distress among post menstrual female elementary students. A total of 129 female students from 12 elementary schools in Taiwan's Hualien country participated in this study. This study found that indigenous students had significantly more frequent episodes of menstrual blood seepage during the day time and awakened at night during period than did non indigenous students. The mean score on the Menstrual Attitude Questionnaire was 1.88. The three most prevalent symptoms of menstrual distress were Dysmenorrhoea, acne and fatigue.

***Naheed Parveen, et al (2009)*** assessed the attitude and knowledge of medical students of Israel University about Dysmenorrhoea and its treatment and non probability, convenient random selection of MBBS student was done. Participants included were 18-25 years of ages, irrespective of marital status. Girls with irregular menstrual cycles, primary or secondary amenorrhea were excluded from the study. Pre-designed questionnaire was filled by the students, found that Dysmenorrhoea is a problem among young girls and it significantly affects their class attendance, academic performance and routine work. Even being medical students, strong culture believes were observed regarding menstrual cycle.

***Avasarala AK (2008),*** studied differences in epidemiological profiles, perceptions, socio economic losses, and quality-of-life losses and management of Dysmenorrhoea in different settings for effective management. 101 girls in urban areas and 79 girls in rural areas in the district of Karimnagar in Andhra Pradesh affected by Dysmenorrhoea. The prevalence of Dysmenorrhoea is 54% (53% of girls in urban areas and 56% in rural areas). Sickness absenteeism (28-48%) and socioeconomic losses are more prevalent among girls in urban areas than in girls in rural areas. Dysmenorrhoea can also be managed effectively by natural methods without resorting to medicines, provided one is psychologically prepared to face it without anxiety.

***Sharma. A, et al (2008)*** assessed the problems related to menstruation and their effect on the daily routine of students of medical colleges in Delhi, India. The study subjects faced the most distressing problems associated with menstruation. The most common effect of menstrual of daily routine reported by the study subjects was in the form of prolonged resting hours (54%) followed by inability to study (50%). More than half (52%) of the subjects discussed their problems with their mother and 60% of the study subjects were opted for allopathic treatment for the menstrual problems.

***Sanfillipo. J, et.Al., (2008)*** assessed and suggested that the most common gynecological complaint among adolescent and young adult females are Dysmenorrhoea and it is the leading cause of short term school absenteeism, either which affects activities of daily living.

***Ohde S, et. Al (2008)*** conducted a study to investigate the epidemiology of Dysmenorrhoea in Japanese women of menstruating age. A prospective cohort study was conducted by using a health diary in a sample representative of Japanese women. Information on health care use also collected. Dysmenorrhoea is common in Japanese women. In our study, about half used self-medication, while some preferred complementary / alternative medicine. Dysmenorrhoea is significantly associated with younger age and employment status.

***A. Singh, et.Al (2008)*** conducted a study to determine the prevalence of Dysmenorrhoea and its impact on academic performance. A total of 706 Hispanic female adolescents in grades 9 to 12. Among these, 85% reported Dysmenorrhoea, 38% reported missing school due to Dysmenorrhoea during last individual classes. Activities affected by Dysmenorrhoea included class concentration (59%), sports (51%), class participation (50%), socialization (46%), homework (35%), test taking skills (36%), and grades (29%). Treatment taken for Dysmenorrhoea included rest (58%), medications (52%), heating pad (26%), tea (20%), exercise (15%), and herbs (7%). Menstrual pain was significantly associated with school absenteeism and decrease academic performance, sports participation and socialization with peers.

***Sharma. P, et al (2008)*** assessed the problems related to menstruation among adolescent girls at New Delhi, India. More than a third (35.9%) of the study subjects were in the age group 13-15 years, followed by 17-19 years, 15-17 years respectively. Mean age of study participants were calculated to be 16.2 years. Dysmenorrrhoea (67.2%) was the common

problem and (63.1%) had one or the other symptoms of premenstrual syndrome (PMS). Daily routine of 60% girls were affected by prolonged bed rest, missed social activities/commitments, disturbed sleep and decreased appetite, 17.24% had to miss a class and 25% had to abstain from work. Mothers and friends were the most common source of information on this issue.

***Anice George (2008)*** conducted an exploratory survey to find out the incidence of Dysmenorrhoea among adolescent girls of Karnataka. A total of 1648 adolescent girls from six districts of Karnataka participated in the study. Multistage cluster sampling technique was used. The incidence of Dysmenorrhoea was perceived pain during menstruation and the common symptoms found associated with Dysmenorrhoea were loss of appetite, nausea, vomiting, distention of abdomen, depression, frequency of menstruation, profuse sweating, lethargy and tiredness, headache, sleeplessness, fullness and tenderness of breasts, feeling of heaviness in the lower abdomen, pain and swelling of ankle and knee joints.

***Harel. Z, et al (2006)*** assessed the prevalence of Dysmenorrhoea among adolescent girls in China reported 75% of adolescent girls with Dysmenorrhoea affects the quality of life of adolescents that there was no socialization with peers, poor academic performance, inability to participate in sports etc.

***Reddish S, et al (2006)*** assessed the impact of Dysmenorrhoea reported the menstruation was the dual significance for women**.** It defines the start and end of reproductive potential, and affirmation of women-hood. Cultural influence such as women's status in the society her life style, religion, education and employment to determine the significance of Dysmenorrhoea. Management includes individualizing treatment cost and the women's personal value and attitudes.

***Weissman AM, et al (2006),*** conducted a prospective mailed survey to describe the prevalence, severity, course and predictive factors of primary Dysmenorrhoea in women of all reproductive age at the University of Lowa, College of Nursing.404 women were selected by stratified sampling from a population of 996. None of the participants suffered from endometriosis, pelvic inflammatory diseases or uterine fibroids. Participants were surveyed twice at an interval of six years (response rate 73% and 78%) regarding menstrual cycle characteristics. Chi-square test, and stepwise logistic regression was used for analysis. A four point rating scale was used. Result showed that in 1985, 80% of response were > 25years old and 60% were Parous. There were few changes over six years in their prevalence of mild (51% to 53%), to moderate (22% to 20%) or severe dysmenorrhoea.

***Dawood. MY, et al (2006)*** revealed that primary dysmenorrhoea is painful menstruating cramps without evident pathology to a account for them it occurs in 50% of menstruating females and it causes significant disruption in quality of life and absenteeism. An algorithm is needed for the management of Dysmenorrhoea.

***MA, Burnett, et al (2005),*** conducted a study in America reported that Dysmenorrhoea is the leading cause of recurrent short term school absenteeism among adolescent girls. The data from 2,699 menarche adolescent girls of 13-18 years drawn from a national probability sampling was collected and analyzed by bivariate and multivariate analysis technique and out of them 1,611 adolescent girls (59.7%) reported Dysmenorrhoea and 14% frequently miss school because of cramps. The prevalence of Dysmenorrhoea was lower at age 18 than at 13 years.

***French,et al (2005)*** conducted a longitudinal study to find out the risk factors of the occurrence, duration and severity of menstrual cramps in a cohort of college women in the U.S.A.One hundred and sixty five women age 17 to 18 years participated in the study. The results were menstrual bleeds, most commonly beginning of the first day of menses. The median

duration was 2 days. 60% of women reported at least one episode of pain while 13% reported more pain more than half of the time. Being overweight was an important factor for menstrual cramps.

***Duarin. D, et al (2005)*** assessed the experience of Dysmenorrhoea among adolescent girls and many girls are familiar with the experience of Dysmenorrhoea, which can contribute to physical and emotional distress and life disruption. Midwives can provide valuable assistance for the women in their explorations of variety of treatment options for dysmenorrrhoea including life style, complementary approaches and hormones.

**REVIEW RELATED TO - EFFECTIVENESSS OF EXERCISE ON DYSMENORRHOEA**

***Brown.J, et al (2010)*** assessed the evidence for the effectiveness of pelvic rocking exercises in the treatment of Dysmenorrhoea. The research was conducted using the methodology of the menstrual disorders and sub fertility group. Hand searching of relevant bibliographies and reference lists were also conducted. Randomized controlled trials conducted for comparing exercise with a control or no intervention in women with Dysmenorrhoea. Trials were independently selected and data extracted by two review authors. Four potentials trials were identified of which one was included in the review. The available data could only be included as a narrative description. Ire (There appeared to be some evidence from the trial that exercise reduced the Moos' Menstrual Distress Questionnaire (MDQ) score during the menstrual phase (P<.05) And resulted in a sustained decrease in symptoms over the three observed cycles (P <.05).

***Shahnaz Shahrjerdi, et al (2010)*** conducted a semi-experimental study of 179 students, 15-17 aged, not an athlete and volunteer bachelor girls with moderate or severe primary Dysmenorrhoea were selected from 6 high schools in two different city zones. The total number of the students

were 519 ones. Selected high schools randomly divided into two groups: experimental group (4 high schools, 124 persons) and control group (2 high schools, 55 persons). Data were analyzed using the student t-test and non-parametric Wilcoxon test. The results demonstrated that after 8 weeks, pain severity was decreased for the experimental group. The results of this study showed that pelvic stretching exercise is effective in reduction of pain severity, pain duration and also in reduction of using sedative tablets in girl students with primary Dysmenorrhoea,

***Golomb LM, et al (2009)*** analyzed the various studies conducted on the effectiveness of Dysmenorrhoea and claimed that exercise is beneficial to Dysmenorrhoea. Studies investigating this relationship have been reviewed for this paper. Most showed decreased prevalence and/or improved symptom with exercise.

***Daley. J, et al (2008)*** several observational studies reported that physical activity/exercise was associated with reduced prevalence of Dysmenorrhoea, although numerous other studies found no significant association between outcomes. There are, however, several plausible 3 mechanisms by which exercise might be effective in the management of primary dismenorrhoea. A large randomized controlled trial is required before women and clinicians are advised that exercise is likely to be effective in reducing primary dismenorrhoea and related menstrual symptoms.

***Hunag Yun,et al(2008)*** assessed the influences of different exercises on adolescent primary dysmenorrhoea symptoms and uterus blood flow in China. Aerobic exercise have good effects on Dysmenorrhoea, obviously improve effectively the uterus blood flow, and relieve the Dysmenorrhoea symptom 12 weeks aerobic exercises of middle intensity treat, light and middle Dysmenorrhoea better. Both systemic-exercise and local-exercise can improve the uterus blood flow well, but local-exercises relieve Dysmenorrhoea symptom better.

***Lakshmi,et al(2008*)** determined the effectiveness of pelvic rocking exercises in primary Dysmenorrhoea among school girls in a district of erode in Tamil Nadu.Thirty one school girls with primary Dysmenorrhoea were selected by the simple random method in the one group pre test design, the effect of pelvic rocking exercise was tested after three weeks of intervention.The pain was measured by using visual analog scale. There was a significant reduction in dysmenorrhoea score in the post test.

***Maryam Rostami, et al (2007)*,** determined the effects of exercise on primary Dysmenorrhoea in the school girls, in Iran. This study was a randomized clinical trial of 150 students suffering from severe primary Dysmenorrhoea. They were studied in two, "exercise" and "non exercise" groups. The exercise will decrease duration and severity of dysmenorrhoea and also using of sedative tablets in higher secondary school girls.

***Abbed aspour Z, et al., (2006)*** determined the effects of exercise on primary dysmenorrhoea among 150 high school girl students in Masged Solayman City.Students were separated in two,"exercise" and "non exercise" groups. The "exercise" group was given some exercises and the results of the two periods after the exercise were registered. The results showed that the intensity of the pain in the exercise group declined from 8.59 to 4.63 in the third period and 2.84 in the fourth period ($P<0.01$). The average of the duration pain declined from 7.15 to 4.22 in the third period and 2.23 in the fourth period ($P<0.01$

***Ann Elaine Jones, et al (2004)*** revealed that primary dysmenorrhoea, pain during menstruation, affects 40-95 percent of menstruating women, and has been reported as the most common causes of regular absenteeism among young women. Exercise is widely accepted as a means of moderating stress and stress-related symptoms because it causes the release of endorphins by the brain. The mood-improving effect of endorphins may indirectly contribute to the lessening of the dysmenorrhoea. Endorphins also act directly by raising the pain threshold.

## CONCEPTUAL FRAME WORK

Conceptual framework is a group of concepts and set of proportion that spells out the relationship between them. Conceptual framework, conceptual model, or conceptual scheme deals with abstractions that are assembled by virtue of their relevance to a common theme; conceptual framework plays several interrelated roles in the progress of science. It serves as a springboard for the generation of research hypothesis and can provide an important concept for scientific research. The conceptual framework facilitates, communications and provide a systematic approach to nursing research, education and administration.

The present study aims at evaluating the effectiveness of the pelvic rocking exercises on adolescent girls with Dysmenorrhoea at Government Girls Higher Secondary School, Egmore, Chennai.

The conceptual framework for this study is developed by the investigator based on modified Donabedian's model: The focus of this theory is the adaptation of the individual to stimuli, from the environment from within. Each component has a direct influence on the next, as represented by the arrows in the following schematic (Donabedian,1980):


Structure refers to the attributes of the settings in which providers deliver health care, including material resources (e.g., swiss ball), human resources and organizational structure.

Process of care denotes what is actually done to the patient in the giving and receiving care. Building on the example above, the provider could receive whether an eligible student has been placed on an exercise.

Maximum pain relieve outcomes are the direct result of a student's primary dysmenorrhoea as a consequence. The students receiving the pelvic rocking exercise could decrease the primary dysmennorrhoea.

In this study, the structure includes the human resource like demographic variable and anthropometric measurement.

Process includes pre-intervention on pain assessment by McGill Pain Scale the treatment is the teaching and demonstration on pelvic rocking exercises with swiss ball in students who have primary dysmenorhoea.

The output is reduction in pain, among the adolescent girls with primary dysmenorrhoea. This was assessed by Modified Mc Gill pain scale.

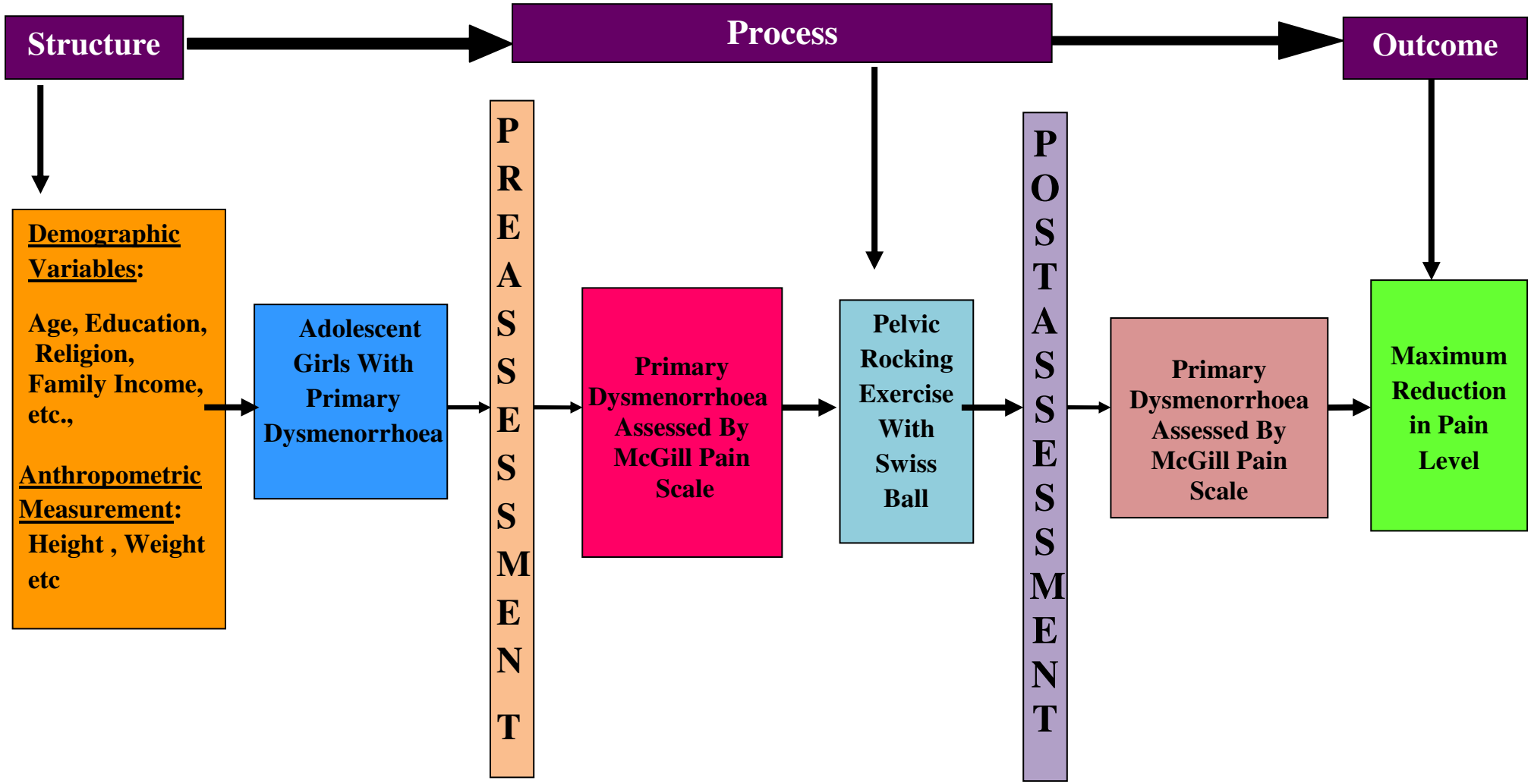



**Figure 1: Conceptual Frame work –Modified Donabedian's Model**

# CHAPTER -III

# RESEARCH METHODOLOGY

The research methodology is a way to solve the research problems systematically. According to Abdellah (1979) research methodology involves the series of procedures in which investigator starts from initial identification of the problem to its final conclusion.

This chapter includes the research approach, research design, setting of the study, population, sample size, sampling technique, selection criteria, development and description of the tool, ethical consideration, validity, reliability, pilot study, data collection method and plan for data analysis.

## 3.1 RESEARCH APPROACH

A research approach tells the researcher as what data to collect and the method of analysis. It also suggests possible conclusions to be drawn from the data. In the present study a quantitative research approach to pre experimental study design is taken as an approach to accomplish the objectives of the study.

## 3.2 RESEARCH DESIGN

The research design is the blueprint contains plan strategy of investigation, description of subjects' observation on variables and selection of settings.

$$\mathbf{E = O_1 X O_2}$$

The research design for the study is one group pre and post experimental design.

Here one group is observed and after the independent variable is introduced.

$O_1$ is the first observation of pre test done for the assessment of pain.

X represents the intervention of pelvic rocking exercises with a Swiss ball.

E is the experimental group.

$O_2$ is the post interventional assessment of pain.

## 3.3 SETTING OF THE STUDY

The study was conducted in Government Girls Higher Secondary School, Egmore, Chennai. The school was established in the year of 1980. This school has the class from VI to XII with only girls. School is government aided school. The school teaches about 800 students. It is situated in Egmore at Chennai

## 3.4 POPULATION

Government Girls Higher Secondary School has standards from VI to XII. There about 800 girls are studying in the school.

## 3.5 SAMPLE SIZE

The sample size was 60 girls, suffering from dysmenorrhoea which is measured by Modified Mc Gill questionnaire, who have attended menarche and fulfills inclusion criteria.

## 3.6 SAMPLING TECHNIQUE

**Simple random sampling technique** was used for this study according to (Pilot and Hunger 2008). Simple random sampling entails picking the sample randomly with available people by picking up lottery methods as study participants. The investigator after enquiring the details of pain during menstruation, the girls were identified as per the inclusion

criteria and pelvic rocking exercise was demonstrated to the samples. After obtaining consent from the samples they were allowed to practice and perform the pelvic rocking exercise.

## 3.7 CRITERIA FOR SELECTION OF THE SAMPLE

**Inclusion criteria:**

- School girls who attained menarche with the history of dysmenorrhoea.
- Girls who had regular cycle of menstruation (28 to 30 days).
- Girls who finished their menstrual period a week earlier.
- Girls willing to participate.

**Exclusion criteria**:

- Girls who have irregular cycle.
- Girls who are not willing to participate in the study.

## 3.8 VARIABLES

Variables are characters that can have more than one value. The two categories of variable are discussed in the present study.

***Independent variable:*** Pelvic rocking exercise.

***Dependent variables***: Pain score of adolescents girls with dysmenorrhoea.

## 3.9 RESEARCH TOOL AND TECHNIQUE

The tools used for the research study consists of demographic data, pain assessment scale (modified Mc Gill pain questionnaire) to assess the pain of the girls. The tool was prepared after going through related literature and with the guidance of experts in the field.

Section-A: Demographic data.

Section-B: Pain assessment scale. (Modified Mc Gill pain questionnaire)

Section-C: Pelvic rocking exercise with Swiss ball-check list.

**DESCRIPTION OF THE TOOL**

**Section-A** consists of demographic variables consisting of age, type of family, religion, educational status of the father mother, height, weight, age of which menarche attended, bleeding pattern, days of bleeding.

**Section-B** consists of pain assessment scale (Modified Mc Gill pain questionnaire) to assess the intensity of pain indicating the nature of pain such as jumping, pricking, squeezing, and killing etc. The pain indicating words were ordered and given to girls and asked the tick the nature of pain they have. The pain score was from 1 to 10.

**Section-C** consists of pelvic rocking exercise demonstration with Swiss ball and following check list.

**The check list consists of the steps involved.**

- Sit straight on the ball.
- Deep breathing should be done.
- Bounce and lunge on the ball.
- Rotate the hip on the ball.
- Pelvis rock back and forth.
- This should be done for duration of 10 minutes.

**3.10 TESTING OF THE TOOL**

### 3.10.1 Reliability

Reliability of the tool was a major criterion for assessing the accuracy. The reliability was assessed using test-retest method. The tool is the excellent tool to assess the effectiveness of pelvic rocking exercise among adolescent girls with dysmenorrhoea. After pilot study reliability of the tool was assessed by using Test retest method. Pain score reliability was interrater method and its correlation coefficient r –value is 0.88. These

correlation coefficient is very high and it is good tool for assessing effectiveness of pelvic rocking exercise.

### 3.10.2 Content validity

In order to measure the content validity, the tool was given to experts from both medical and nursing expert.

Experts were requested to judge the items for their clarity and relevance of the content. They gave some suggestions. After the modification they agree that the items in the instrument seem to be measuring the multidimensional effectiveness of pelvic rocking exercise. Based on their suggestions the tool was refined and finalized.

### 3.10.3 PILOT STUDY

The pilot study is a trial run for main study to test the reliability, practicability, appropriateness and feasibility of the study. A formal permission to conduct the study in the school was obtained from the Chief Educational Officer, Chennai. Pilot study was done for a period of 6 days , samples of 6 was selected from one section of school. The purpose of the study was informed to the clients. Confidentiality of the information and privacy of the clients was assured. The permission was obtained from clients. Samples were selected using simple Random sampling technique. Analysis of the findings showed high consistency and feasibility of the study and after which the plan for the actual study was made.

## 3.11 DATA COLLECTION PROCEDURE

A formal permission to conduct the study in the school was obtained from the Chief Educational Officer, Chennai. After informing the Head Master the process was started. After getting consent from the girls, the girls were selected as per the inclusion criteria. The procedure of pelvic rocking exercise and its advantage was clearly explained to the girls. The girls were divided into groups and the time for their exercise was allotted.

Then the girls were allowed to do exercise as supervised by the investigator and the P.T. Master in the school, based on pre assessment, followed by intervention, followed by post assessment. Time schedule allotted form the study, and four weeks were programmed.

**Phase-I: Pre test assessment of pain in primary dysmenorrhoea of adolescent girls**

The investigator introduced her, established rapport by explaining the purpose of the study and about the tool. Informed consent was obtained from the parents|gaurdian and confidentiality was assured. After identifying the girls with inclusion criteria pre test assessment was done.

**Phase-II Intervention of pelvic rocking exercise with swiss ball.**

Girls were given schedule to do the exercise and exercise was given for four weeks. Pelvic rocking exercise was done by the girl. The girl in their allotted period does the exercise. So the girl was asked to sit on ball and take deep breath bounce and lunge on the ball, rotate the hip on the ball and moves the pelvis rock back and forth. This was done by the adolescent girls for duration of 10 minutes every day in the study period.

**Phase-III: Post test assessment of pain in primary dysmenorrhoea of adolescent girls**.

The investigator conducted the post test for the adolescent girls after the duration of four weeks with the pain assessment scale of Modified Mc Gill Pain

Questionnaire and the pain level was evaluated to find out the outcome.

## 3.12 PLAN FOR DATA ANALYSIS

Data collected will be analyzed using both descriptive and inferential statistics.

**Descriptive statistics**

1) Frequency and percentage distribution will be used to analyze the demographic variable of the samples.
2) Mean and standard deviation will be used to assess the pain level of the Girls with primary dysmenorrhoea.

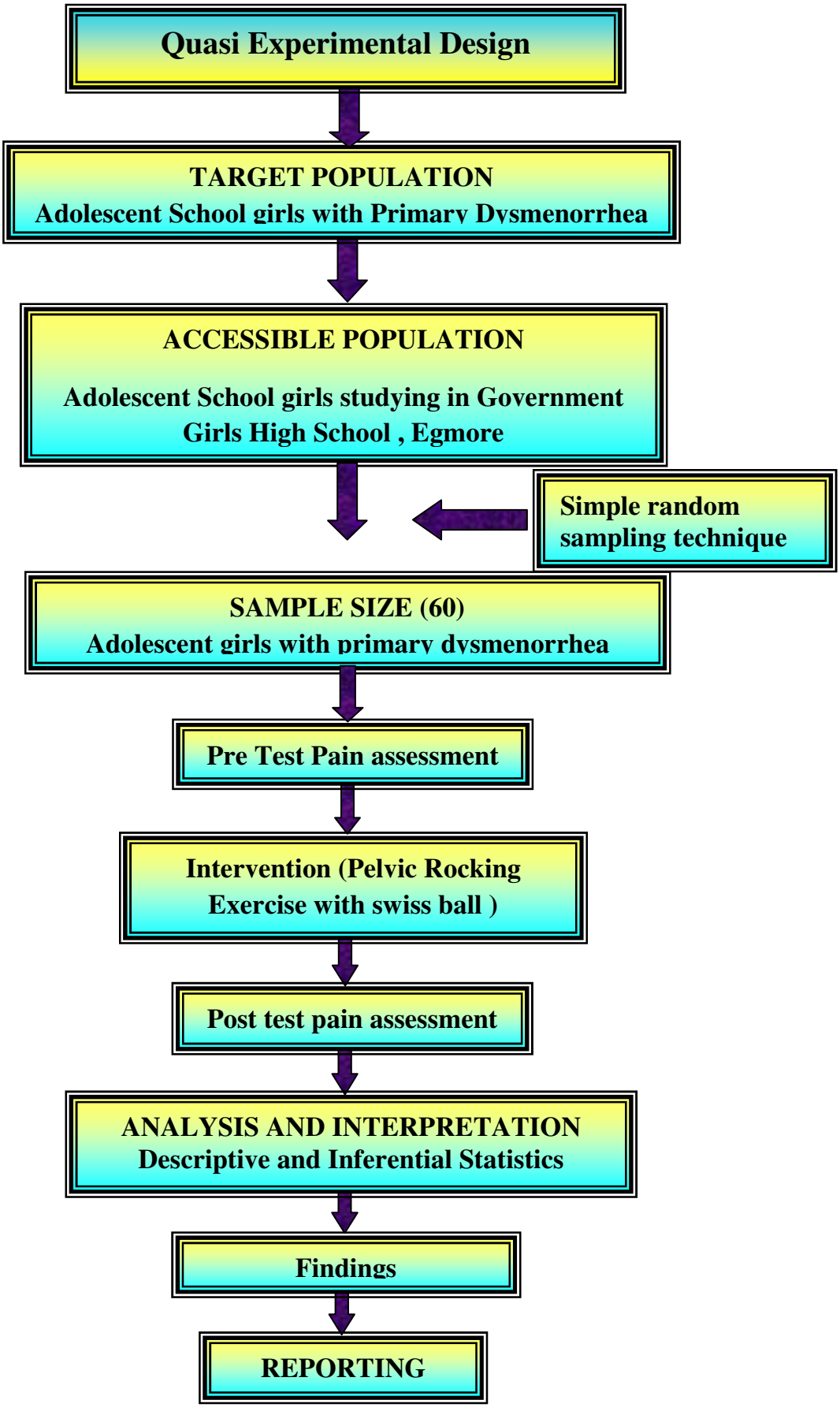
**Inferential statistics**

1) Association with demographic variables and pain reduction score were analysed and using chi-square test.
2) Differences between pretest and posttest score was analysed using proportion with 95% CI and mean difference with 95% CI.
3) knowledge score in pretest and posttest were compared using student's paired t-test**.**
4) Simple bar , multiple bar diagram, pie diagram, percentage bar diagram and box plot were used to represent the data **.**
5) P<0.05 was considered statistically significant. All statistical tests are two tailed test.

## 3.13 ETHICAL CONSIDERATIONS

The study proposal was submitted to Institutional Ethical Committee, Madras Medical College and the experts committee approved the study. The informed consent was obtained from every sample before the procedure of data collection. The study was done without any violation of human rights.

## FIGURE 2. RESEARCH DESIGN



# CHAPTER IV

# DATA ANALYSIS AND INTERPRETATION

This chapter deals with the analysis and interpretation of the data collected from 60 samples of adolescent girls studying in Government Higher Secondary School after Pelvic Rocking exercise in primary dysmenorrhoea at Chennai.

Analysis is a method for rendering quantitative, meaningful and providing intellectual information. So that the research problem can be studied and tested including the relationship between the variables.

The data collected have been analyzed using appropriate statistical methods and the results are prescribed in this chapter.

## ORGANIZATION OF DATA

The findings of the study were grouped and analyzed under the following sections.

Section-I : Distribution of the samples according to their Demographic profiles

Section II : Pre test pain score level before Pelvic Rocking Exercise

Section III : Post test pain score level after Pelvic Rocking Exercise

Section IV : Comparison of Pre test pain score level and post test pain score level

Section V : Effectiveness of Pelvic Rocking Exercise

Section VI : Association between level of pain reduction and Demographic variables,

## Section-I : DISTRIBUTION OF THE SAMPLES ACCORDING TO THEIR DEMOGRAPHIC PROFILES

**Table 3**

| Demographic variables | | No. of adolescent girls | % |
|---|---|---|---|
| Age | 13 -14 yrs | 44 | 73.3% |
| | 15 -16 yrs | 16 | 26.7% |
| Educational Status | 8th std | 7 | 11.7% |
| | 9th std | 40 | 66.7% |
| | 10th std | 13 | 21.6% |
| Religion | Hindu | 48 | 80.0% |
| | Muslim | 12 | 20.0% |
| Family Income Per Month | Rs. 2000-4000 | 21 | 35.0% |
| | Rs. 4001-6000 | 20 | 33.3% |
| | Rs. 6001-8000 | 12 | 20.0% |
| | Rs.8001-10000 | 7 | 11.7% |
| Fathers Education | Non formal | 12 | 20.0% |
| | Primary | 19 | 31.7% |
| | Middle | 21 | 35.0% |
| | High school | 8 | 13.3% |
| Mothers education | Non formal | 9 | 15.0% |
| | Primary | 13 | 21.7% |
| | Middle | 20 | 33.3% |
| | High school | 11 | 18.3% |
| | Higher secondary | 5 | 8.3% |
| | Graduate | 2 | 3.3% |
| Fathers occupation | Unskilled work | 28 | 46.7% |
| | Skilled work | 24 | 40.0% |
| | Professional | 8 | 13.3% |
| Mothers occupation | Housewife | 38 | 63.3% |
| | Unskilled work | 20 | 33.3% |
| | Skilled work | 2 | 3.3% |
| Type of Family | Nuclear family | 43 | 71.7% |
| | Joint family | 17 | 28.3% |
| Family H/O dysmenorrheal | Yes | 9 | 15.0% |
| | No | 51 | 85.0% |

**Table 3** revealed that among 60 samples majority (73.3%) of girls with dysmenorrhoea were between the age group of 13-14 years and their Fathers (46.7%) are unskilled workers and majority of their mothers(63%) are house wives and the majority (35%) of them belongs to lower class family. The higher proportion of the samples (85%) have no family history of dysmenorrhea

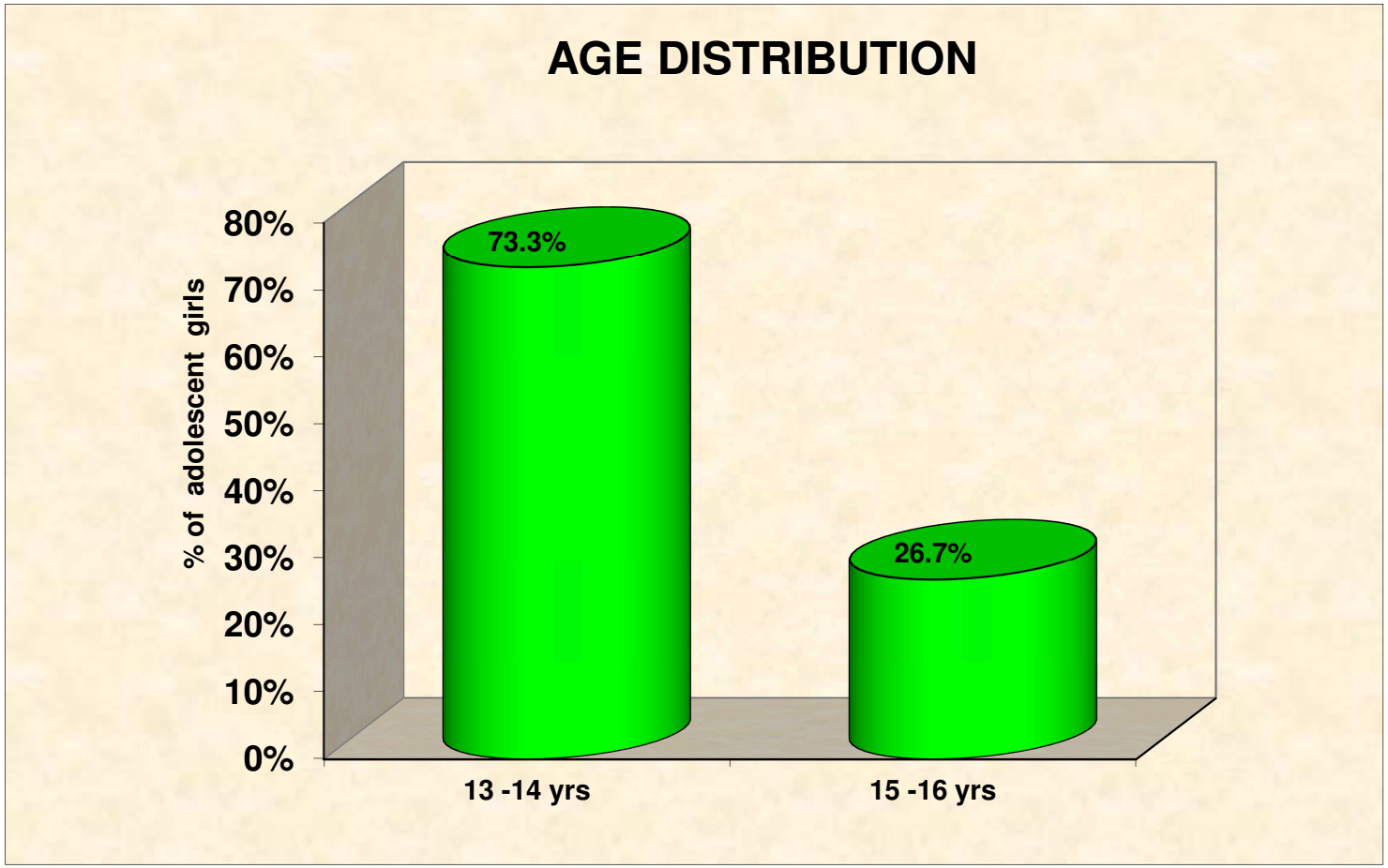



**Figure 3. depicts that 73.3% of participants are between the age group 13-14 yrs**

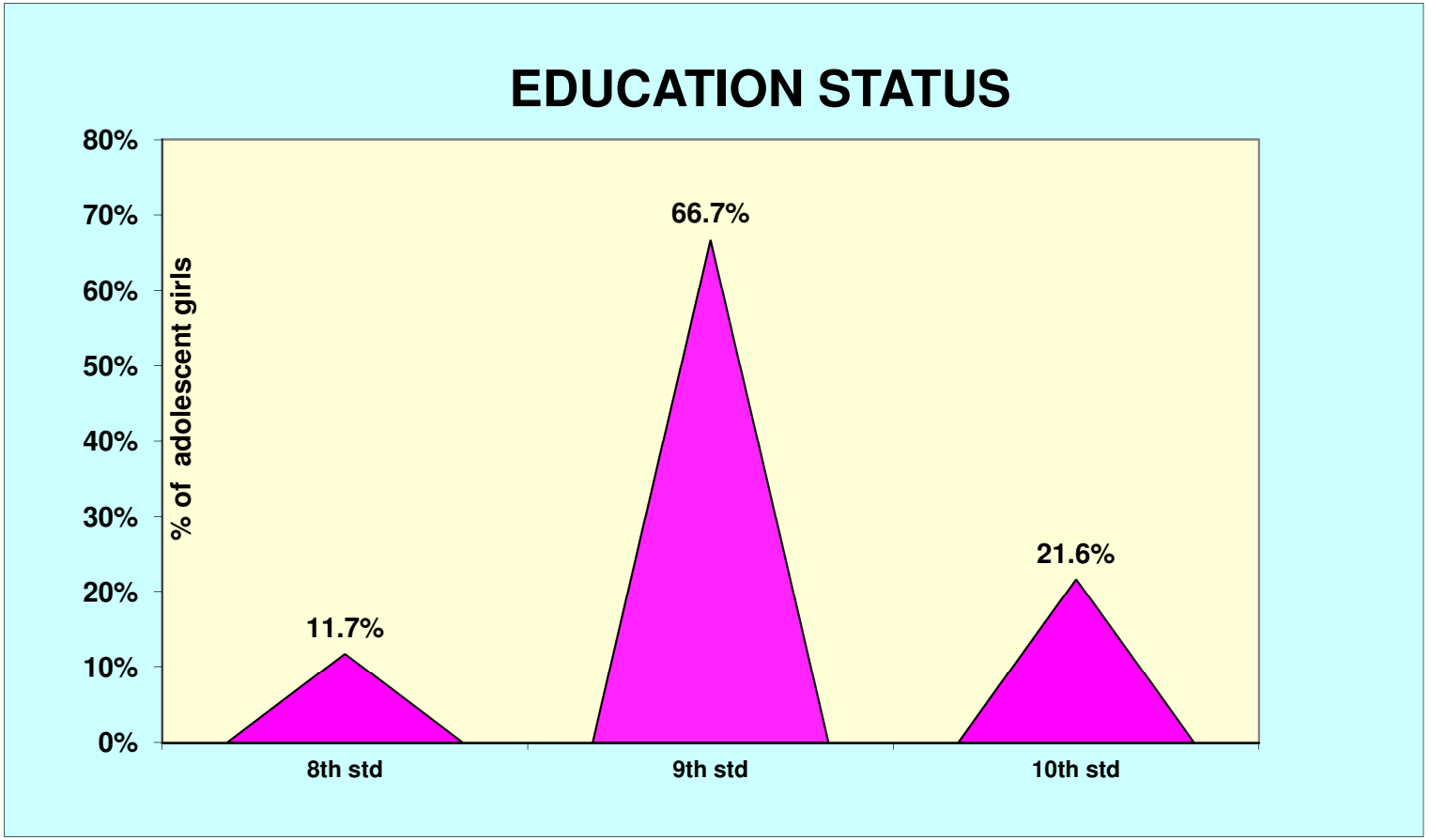



**Figure 4 reveals that about 66.7% of adolescent girls are studying in 9th std**

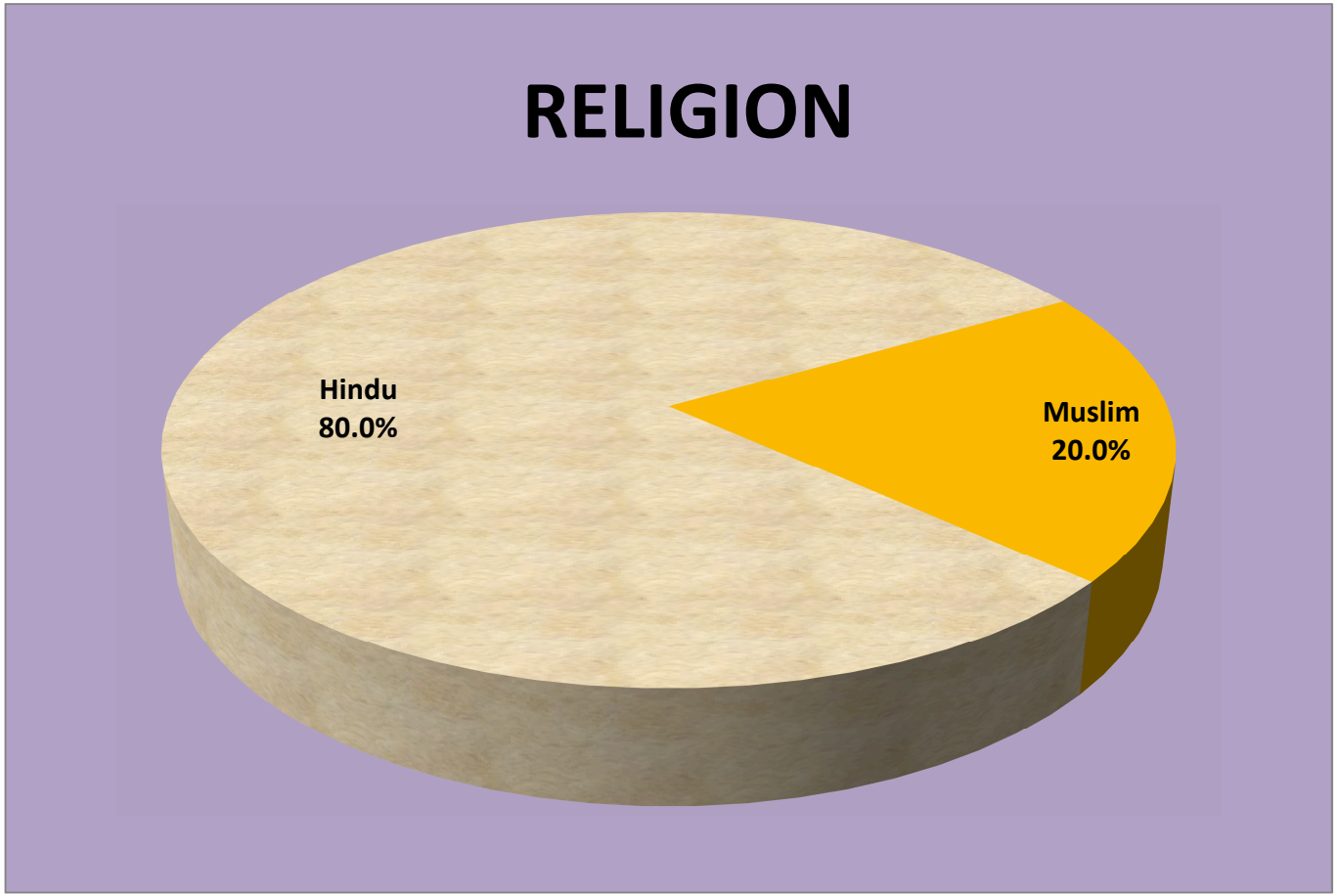



**Figure 5 showed that majority (80.0%) of the participants are belongs to hindu religion**

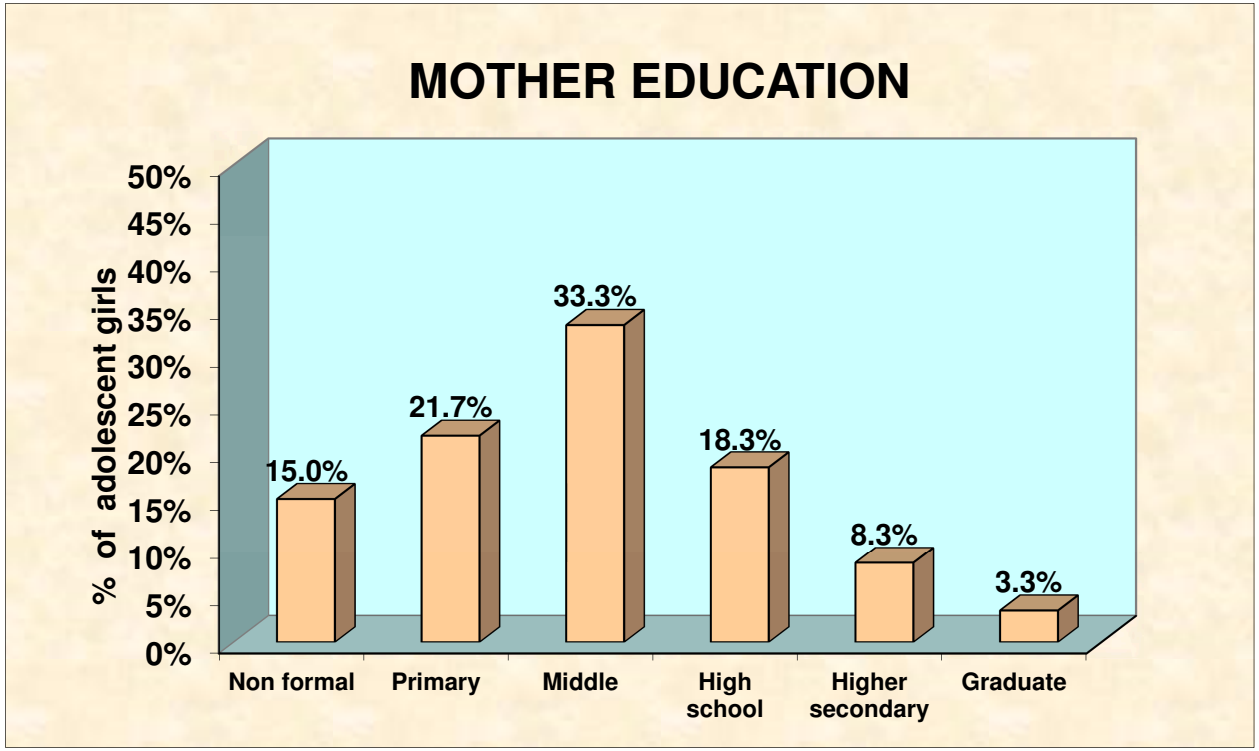



**Figure 6 showed that majority (33.3%) of the girl's mother's have got education upto middle school education**

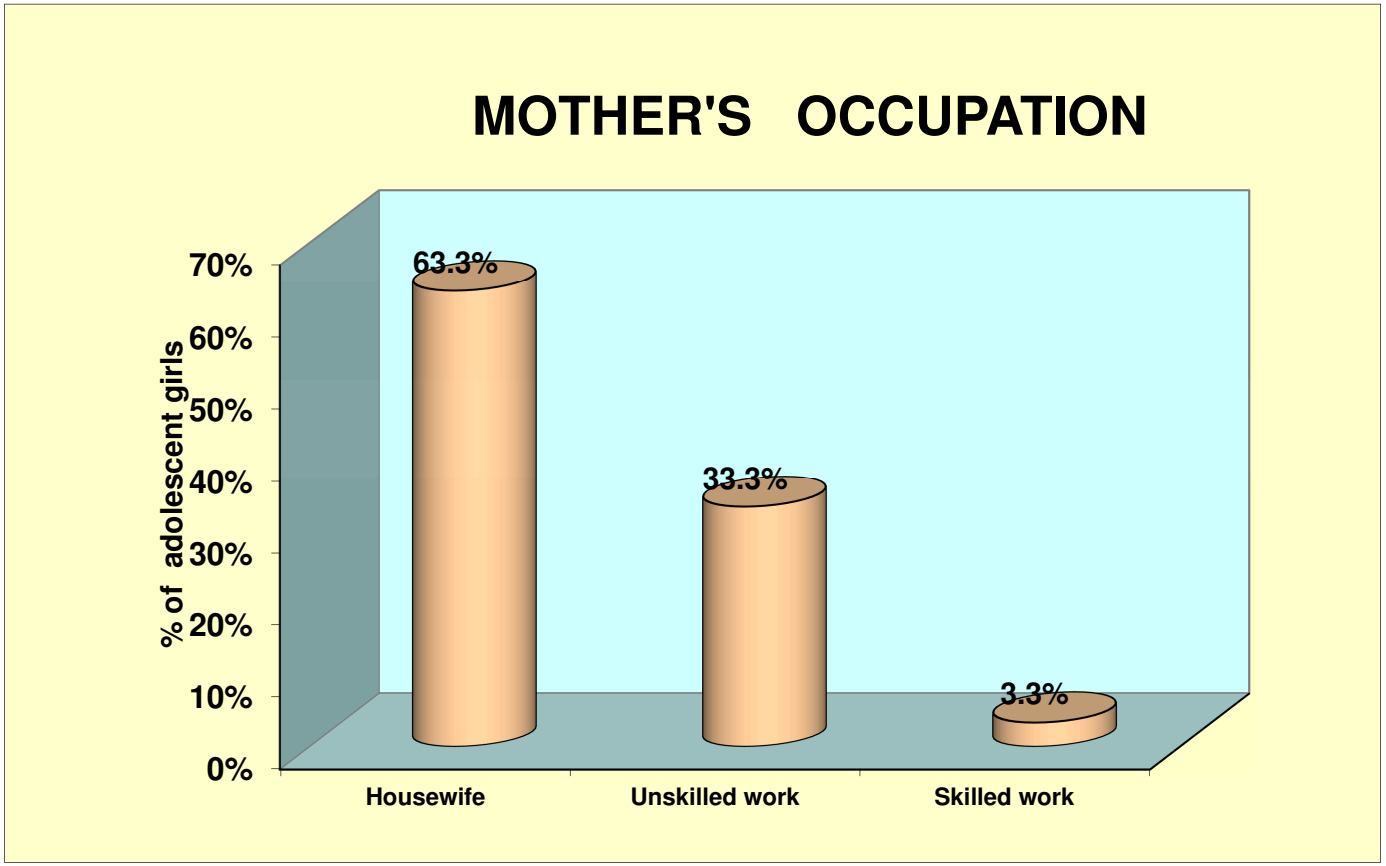



**Figure 7 reveals that most of the participant's mothers (63.3%) were house wives**

**Table 4: ANTHROPOMETRIC MEASUREMENTS**

| Anthropometric measurements | | No. of girls | % |
|---|---|---|---|
| Weight | 36 -40kg | 28 | 46.7% |
| | 41 -45kg | 32 | 53.3% |
| Height | 111-120 cm | 3 | 5.0% |
| | 121-130 cm | 30 | 50.0% |
| | >130 cm | 27 | 45.0% |

**Table 4** shows the Anthropometric information of adolescent school girls those who are participated in this study, among them the majority(53.3%) of the girls weight lies between 41-45kg, lower than half percentage(46.7%) of girls weight lies between 36-40kg, and half of the participant's(50%) height is between 121-130cm, less than half (45%) percentage of girls belongs to the height between 111-120cm.

**Table 5: MENSTRUAL CYCLE**

| Menstrual Cycle | | No. of girls | % |
|---|---|---|---|
| Age of attaining menarche | 13 -14 yrs | 28 | 46.7% |
| | 15 -16 yrs | 32 | 53.3% |
| Duration of menstrual cycle | 3 - 4 days | 30 | 50.0% |
| | 5 - 6 days | 30 | 50.0% |
| Pain during menstruation | Yes | 60 | 100.0% |
| Duration of pain | < 1 hour | 24 | 40.0% |
| | 2 - 3 hour | 25 | 41.7% |
| | 4 - 5 hour | 11 | 18.3% |
| Type of pain | 1 | 4 | 6.7% |
| | 2 | 2 | 3.3% |
| | 3 | 29 | 48.3% |
| | 4 | 25 | 41.7% |
| Daily activities interfered with this type of pain | Attending school | 21 | 35.0% |
| | Reading | 25 | 41.7% |
| | Doing house hold work | 14 | 23.3% |
| Symptoms accompanying dysmenorrhoea | Joint pain | 3 | 5.0% |
| | Head ache | 10 | 16.7% |
| | Irritablility | 20 | 33.3% |
| | Others | 27 | 45.0% |
| Common remedy during dysmenorrhoea | Watching TV | 31 | 51.7% |
| | Sleeping | 29 | 48.3% |
| Are you taking any medicine during dysmenorrhoea | Yes | 32 | 53.3% |
| | No | 28 | 46.7% |
| If yes, What medicine will you take | Paracetamol | 13 | 40.6% |
| | Diclofenac sodium | 11 | 34.4% |
| | Ibuprufen | 8 | 25.0% |
| Flow of menstruation during Dysmenorrhoea | Severe bleeding | 7 | 11.7% |
| | Moderate bleeding | 32 | 53.3% |
| | Mild bleeding | 21 | 35.0% |
| Habit of doing Exercise | Yes | 4 | 6.7% |
| | No | 56 | 93.3% |

Table 5. depicts majority of the girls(53.3%) attended menarche at age between 15-16yrs,equal proportion of the girls have menstrual cycle either 3-4 days or 5-6 days, all the samples are having dysmenorrhoea (100%), majority (43.3%) of them are having sharp pain during menstruation, among the girls majority (41.7%) of the girls having interruption in reading during dysmenorrhoea, as far as the table higher proportion (53.3%) of the girls are taking paracetamol(40.6%), higher proportion (53.3%) of the samples flow of menstruation is moderate and most of the participants (93.3%) are not doing any exercises.

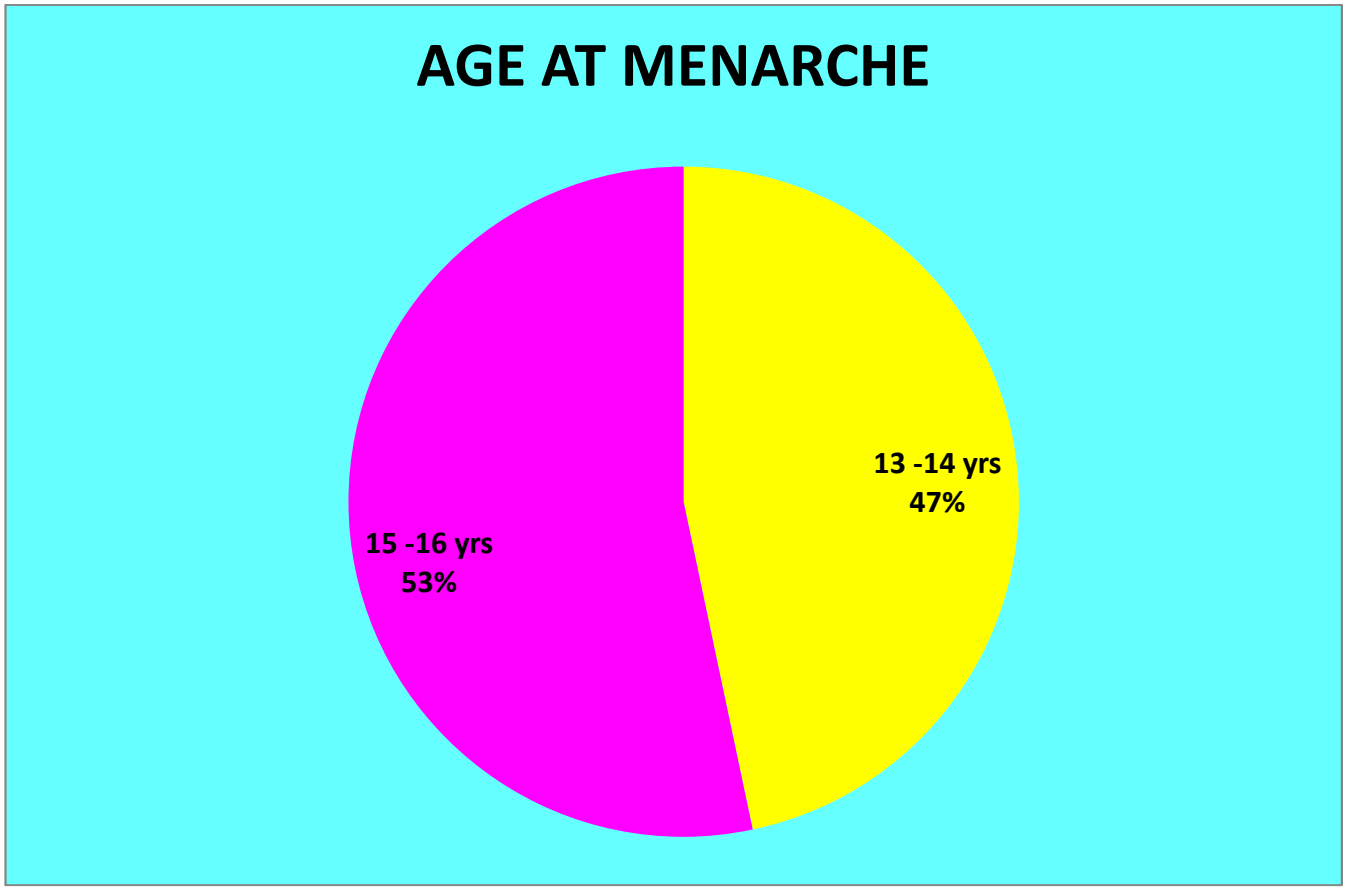



**Figure 8 showed that 53% of adolescent girls attained menarche at the age of 15-16years**

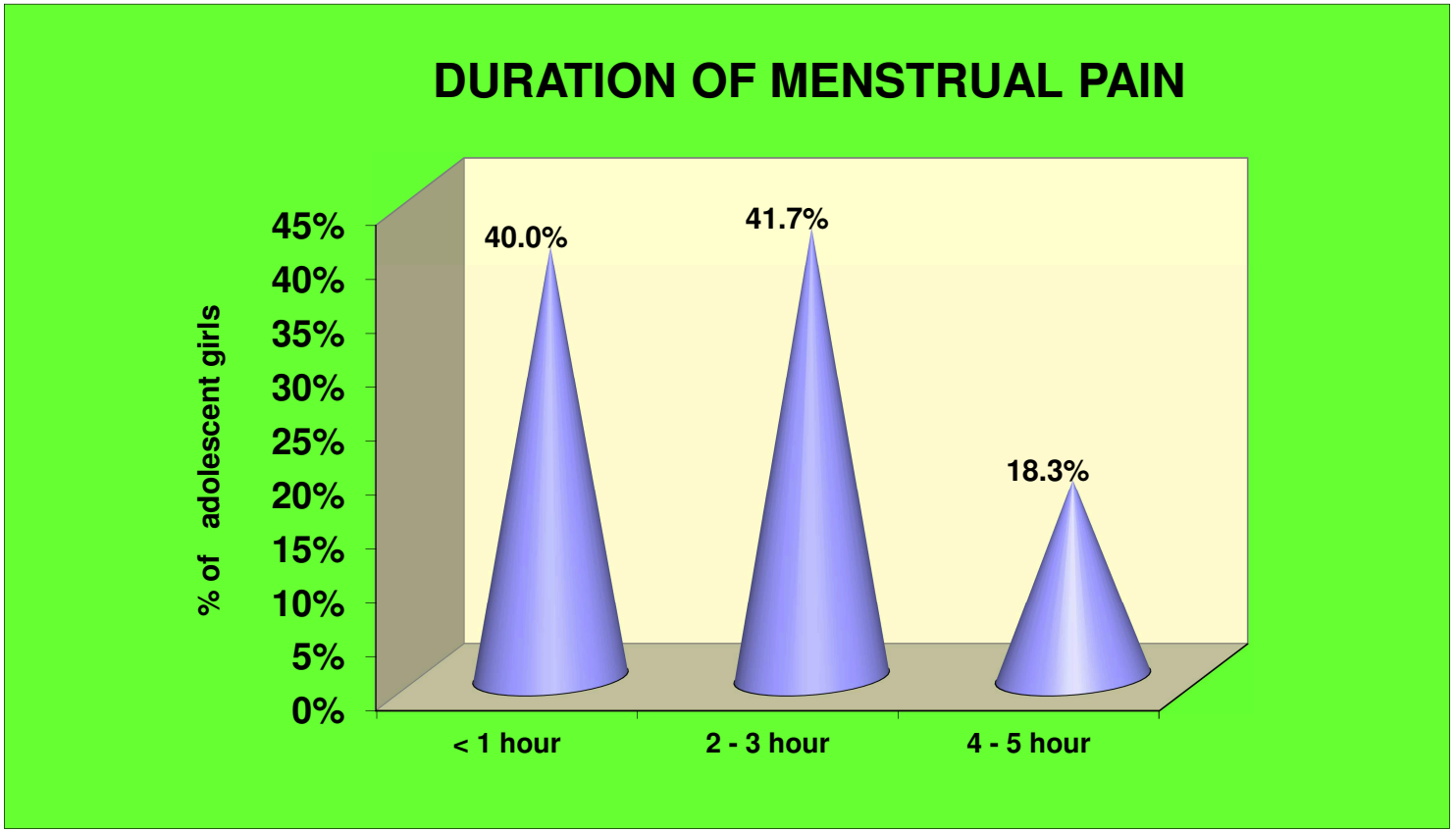



**Figure 9 depicts that majority (41.7%) of the participant's have about 2-3 hours of dysmenorrheal during menstruation**

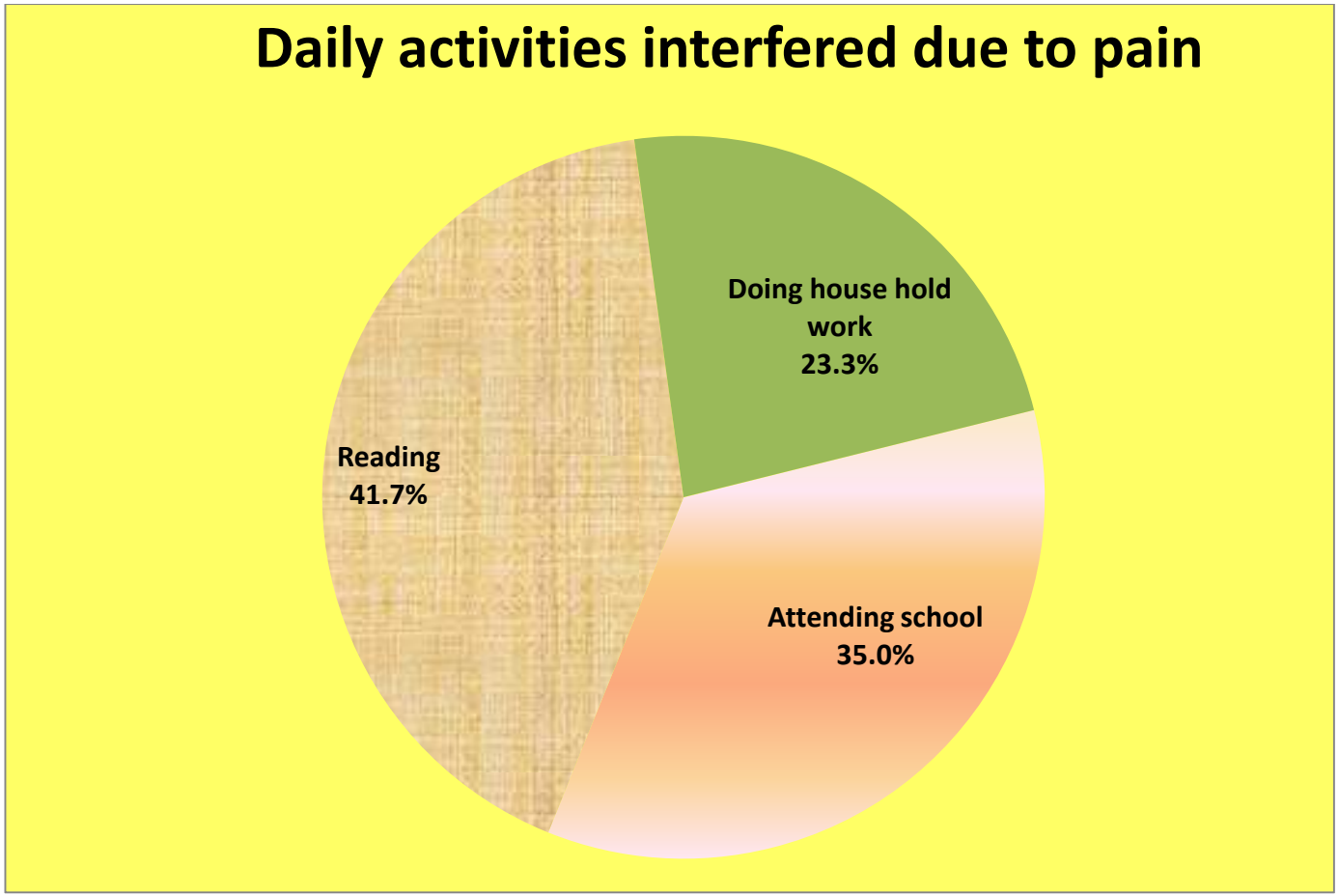



**Figure 10 shows that about 41.7% of girls are interfered in reading due to dysmenorrhoea**

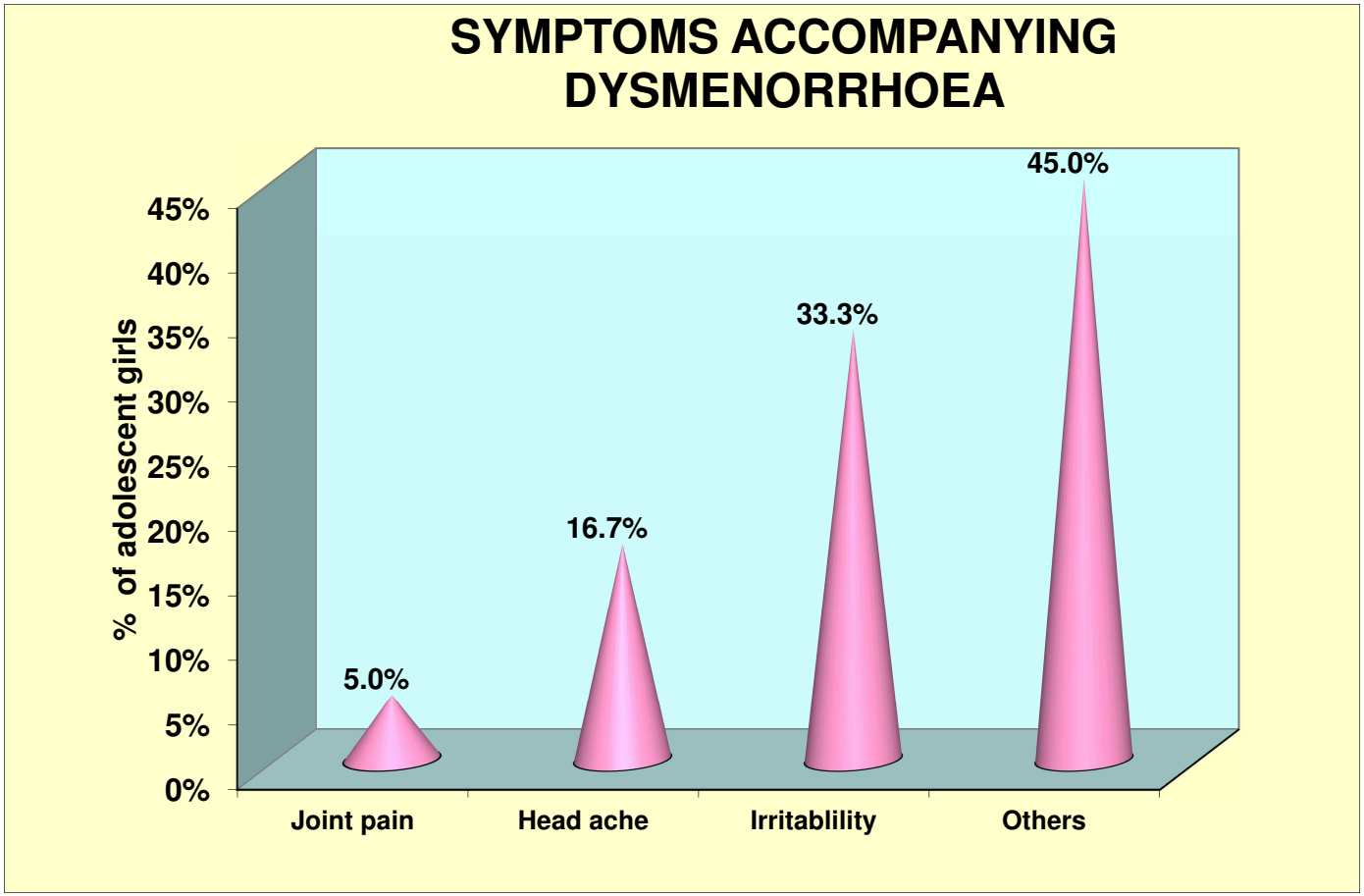



**Figure 11 showed that the higher proportion of adolescent girls have other symptoms during menstruation**

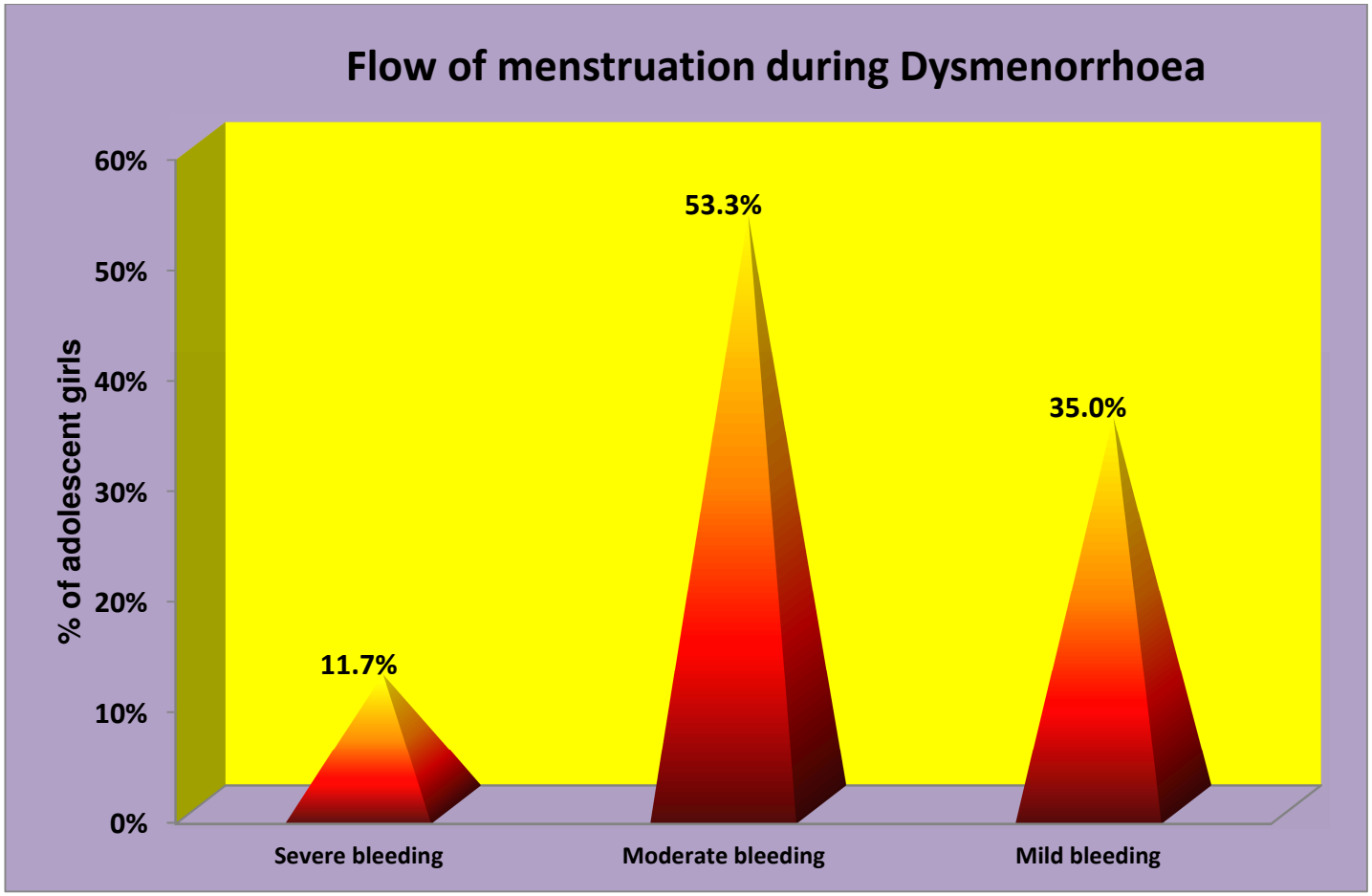



**Figure 12 depicts that the majority (53.3%) of the samples are having moderate bleeding during dysmenorrhea**

## Section II : PRE TEST PAIN SCORE LEVEL BEFORE PELVIC ROCKING EXERCISE

### Table 6: PRE TEST LEVEL OF PAIN SCORE

| Level of pain | No. of girls | % |
|---|---|---|
| No pain | 0 | 0.0% |
| Mild | 0 | 0.0% |
| Moderate | 35 | 58.3% |
| Severe | 25 | 41.7% |
| Worst | 0 | 0.0% |
| Total | 60 | 100.0% |

Table 6 assess the level of pain score of adolescent girls at Government Higher Secondary School before pelvic rocking exercise in primary dysmenorrhoea. In pre test more than half of them were having (58.3%) moderate pain and less than half of the percentage (41.7%) of them were having severe pain.

### Table 7. PAIN SCORE INTERPRETATION

| | |
|---|---|
| No pain | 0 |
| Mild | 1-3 |
| Moderate | 4 -6 |
| Severe | 7-9 |
| Worst | 10 |

Table 7 reveals about the pain score interpretation according to that no pain indicates score “0”, the least level pain indicates score”1-3”, moderate level pain indicates pain score”4-6”, severe pain indicates score “7-9” and very worst level pain indicates score “10”.

## Section III : POST TEST PAIN SCORE LEVEL AFTER PELVIC ROCKING EXERCISE

### Table 8: POSTTEST LEVEL OF PAIN SCORE

| Level of pain | No. of girls | % |
|---|---|---|
| No pain | 0 | 0.0% |
| Mild | 50 | 83.3% |
| Moderate | 10 | 16.7% |
| Severe | 0 | 0.0% |
| Worst | 0 | 0.0% |
| Total | 60 | 100.0% |

Table 8 assess the level of pain score of adolescent girls at Government Higher Secondary School after pelvic rocking exercise in primary dysmenorrhoea. In post test the higher proportion (83.3% ) of the girls were having mild pain and 16.7% of them are having moderate pain.

## SECTION IV : COMPARISON OF PRE TEST PAIN SCORE LEVEL AND POST TEST PAIN SCORE LEVEL

**Table 9: COMPARISON OF LEVEL OF PAIN BETWEEN PRETEST AND POSTTEST**

| Level of pain | Pretest | | Posttest | | Chi square test |
|---|---|---|---|---|---|
| | n | % | N | % | |
| **No pain** | **0** | **0.0%** | **0** | **0.0%** | $\chi 2=88.89$ P=0.001*** Significant |
| **Mild** | **0** | **0.0%** | **50** | **83.3%** | |
| **Moderate** | **35** | **58.3%** | **10** | **16.7%** | |
| **Severe** | **25** | **41.7%** | **0** | **0.0%** | |
| **Worst** | **0** | **0.0%** | **0** | **0.0%** | |
| **Total** | **60** | **100.%** | **60** | **100.%** | |

*** significant at P≤0.05 ** highly significant at P≤0.01 *** very high significant at P≤0.001**

Table 9 assess the level of pain score of adolescent girls at before and after pelvic rocking exercise in primary dysmenorrhoea .

In pre test more than half percentage of them (58.3%) are having moderate pain and less than half percentage (41.7%) of them are having severe pain.

In post test major proportion (83.3%) are having mild pain and 16.7% of them are having moderate pain. Difference between pretest and posttest pain score is large and statistically significant (P=0.00 ) and it was calculated using **Chi square test**($\chi 2=88.89$)**.**

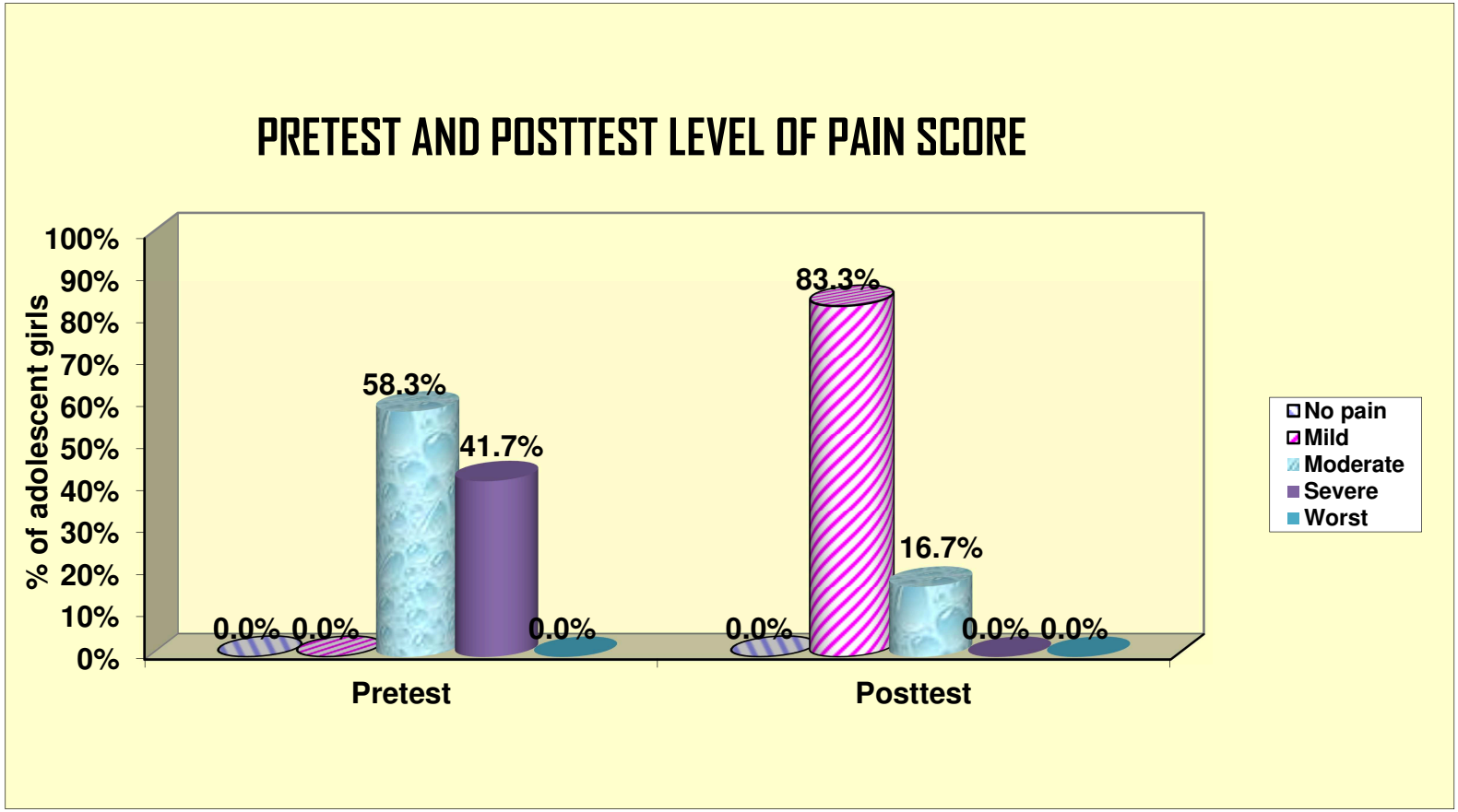



**Figure13 showed that about 83.3%of them have mild pain in post test**

**Table 10: COMPARISON OF PRETEST AND POSTTEST MEAN PAIN SCORE**

| | Number of adolescent girls | Mean pain score | | Student's paired t-test |
|---|---|---|---|---|
| | | Mean | SD | |
| Pretest | 60 | 6.68 | 1.19 | t=22.18 P=0.001*** |
| Posttest | 60 | 2.30 | 1.12 | |

*** significant at P≤0.05 ** highly significant at P≤0.01 *** very high significant at P≤0.001**

Table 10 compares pre-test and post-test pain scores of adolescent girls at before and after pelvic rocking exercise in primary dysmenorrhoea

In pretest, the mean pain score among the study participants are 6.68, after pelvic rocking exercise in post test the mean pain score is 2.30, so the difference is 4.38, this difference is small and it is statistically significant (P=0.001) difference.

Statistical significance was calculated using **student's paired t-test** (t=22.18)**.**

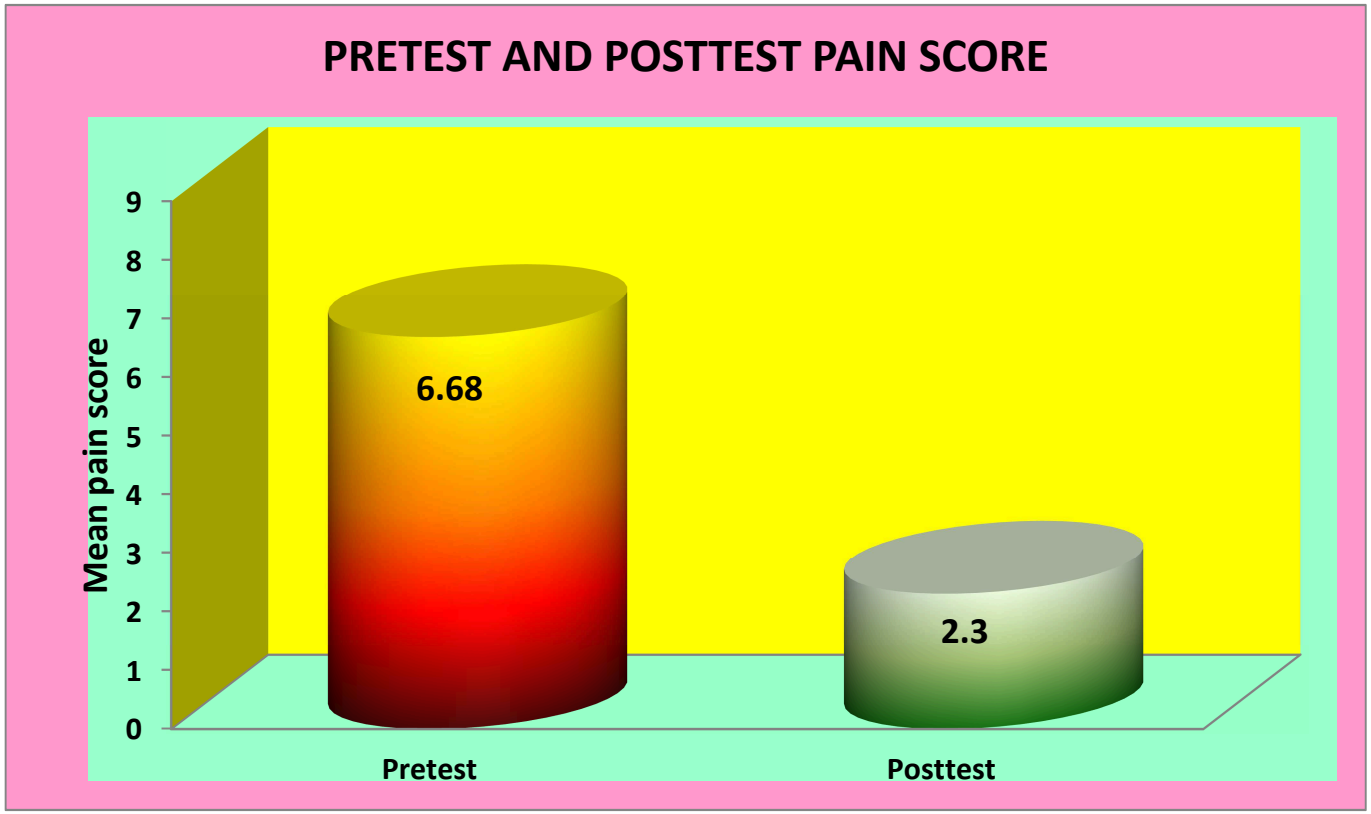



**Figure14 showed about the mean pain score between pre and post test the difference is 4.38**

## Section V : EFFECTIVENESS OF PELVIC ROCKING EXERCISE

### Table 11: Effectiveness of Pelvic Rocking exercise

| | Max score | Mean knowledge | Mean difference with 95% Confidence interval | Percentage difference with 95% Confidence interval |
|---|---|---|---|---|
| **Pretest** | 10 | 6.68 | 4.38 (3.98 - 4.77) | **43.8%(39.8%-47.7%)** |
| **Posttest** | 10 | 2.30 | | |

Table 11 compares pre- test and post- test pain scores of adolescent girls of before and after Pelvic Rocking exercise in primary dysmenorrhoea.

On an average, adolescent girls reduced 43.8% of pain score after having pelvic rocking exercise in primary dysmenorrhoea. Differences between pretest and posttest score was analysed using proportion with 95% CI and mean difference with 95% CI. **This difference 43.8% is the net benefit of this study**

## Section VI : ASSOCIATION BETWEEN LEVEL OF PAIN REDUCTION AND DEMOGRAPHIC VARIABLES

**Table 12**

| Demographic variables | | Level of pain reduction | | | | Total | Chi square test |
|---|---|---|---|---|---|---|---|
| | | Below average(<4.4) | | Above average(>4.4) | | | |
| | | n | % | n | % | | |
| Age | 13 -14 yrs | 26 | 59.1% | 18 | 40.9% | 44 | **$\chi$2=5.45 p=0.02*** |
| | 15 -16 yrs | 4 | 25.0% | 12 | 75.0% | 16 | |
| Educational Status | 8th std | 5 | 71.4% | 2 | 28.6% | 7 | **$\chi$2=8.42 p=0.02*** |
| | 9th std | 23 | 57.5% | 17 | 42.5% | 40 | |
| | 10th std | 2 | 15.4% | 11 | 84.6% | 13 | |
| Religion | Hindu | 22 | 45.8% | 26 | 54.2% | 48 | $\chi$2=1.66 p=0.19 |
| | Muslim | 8 | 66.7% | 4 | 33.3% | 12 | |
| Family Income Per Month | Rs. 2000-4000 | 9 | 42.9% | 12 | 57.1% | 21 | $\chi$2=3.84 p=0.27 |
| | Rs. 4001-6000 | 8 | 40.0% | 12 | 60.0% | 20 | |
| | Rs. 6001-8000 | 8 | 66.7% | 4 | 33.3% | 12 | |
| | Rs.8001-10000 | 5 | 71.4% | 2 | 28.6% | 7 | |
| Fathers Education | Non formal | 5 | 41.7% | 7 | 58.3% | 12 | $\chi$2=2.07 p=0.55 |
| | Primary | 12 | 63.2% | 7 | 36.8% | 19 | |
| | Middle | 9 | 42.9% | 12 | 57.1% | 21 | |
| | High school | 4 | 50.0% | 4 | 50.0% | 8 | |
| Mothers education | Non formal | 2 | 22.2% | 7 | 77.8% | 9 | $\chi$2=8.97 p=0.11 |
| | Primary | 9 | 69.2% | 4 | 30.8% | 13 | |
| | Middle | 7 | 35.0% | 13 | 65.0% | 20 | |
| | High school | 8 | 72.7% | 3 | 27.3% | 11 | |
| | Higher secondary | 3 | 60.0% | 2 | 40.0% | 5 | |
| | Graduate | 1 | 50.0% | 1 | 50.0% | 2 | |
| Fathers occupation | Unskilled work | 11 | 39.3% | 17 | 60.7% | 28 | $\chi$2=2.78 p=0.24 |
| | Skilled work | 15 | 62.5% | 9 | 37.5% | 24 | |
| | Professional | 4 | 50.0% | 4 | 50.0% | 8 | |
| Mothers occupation | Housewife | 14 | 36.8% | 24 | 63.2% | 38 | **$\chi$2=7.63 p=0.02*** |
| | Unskilled work | 15 | 75.0% | 5 | 25.0% | 20 | |
| | Skilled work | 1 | 50.0% | 1 | 50.0% | 2 | |
| Type of Family | Nuclear family | 20 | 46.5% | 23 | 53.5% | 43 | $\chi$2=0.73 p=0.39 |
| | Joint family | 10 | 58.8% | 7 | 41.2% | 17 | |
| Family H/O dysmenorrhea | Yes | 3 | 33.3% | 6 | 66.7% | 9 | $\chi$2=1.17 p=0.27 |
| | No | 27 | 52.9% | 24 | 47.1% | 51 | |

Table 12 shows the association between level of pain reduction and demographic variables. As far as the table, it highlights that post test pain score has significant association with the age of the participants (15-16 years) (**$\chi$2=5.45, p=0.02),** educational status ($10^{th}$ std) (**$\chi$2=8.42, p=0.02** ), and mother's occupation (**$\chi$2=7.63 ,p=0.02).** Statistical significance was calculated using chi square test.

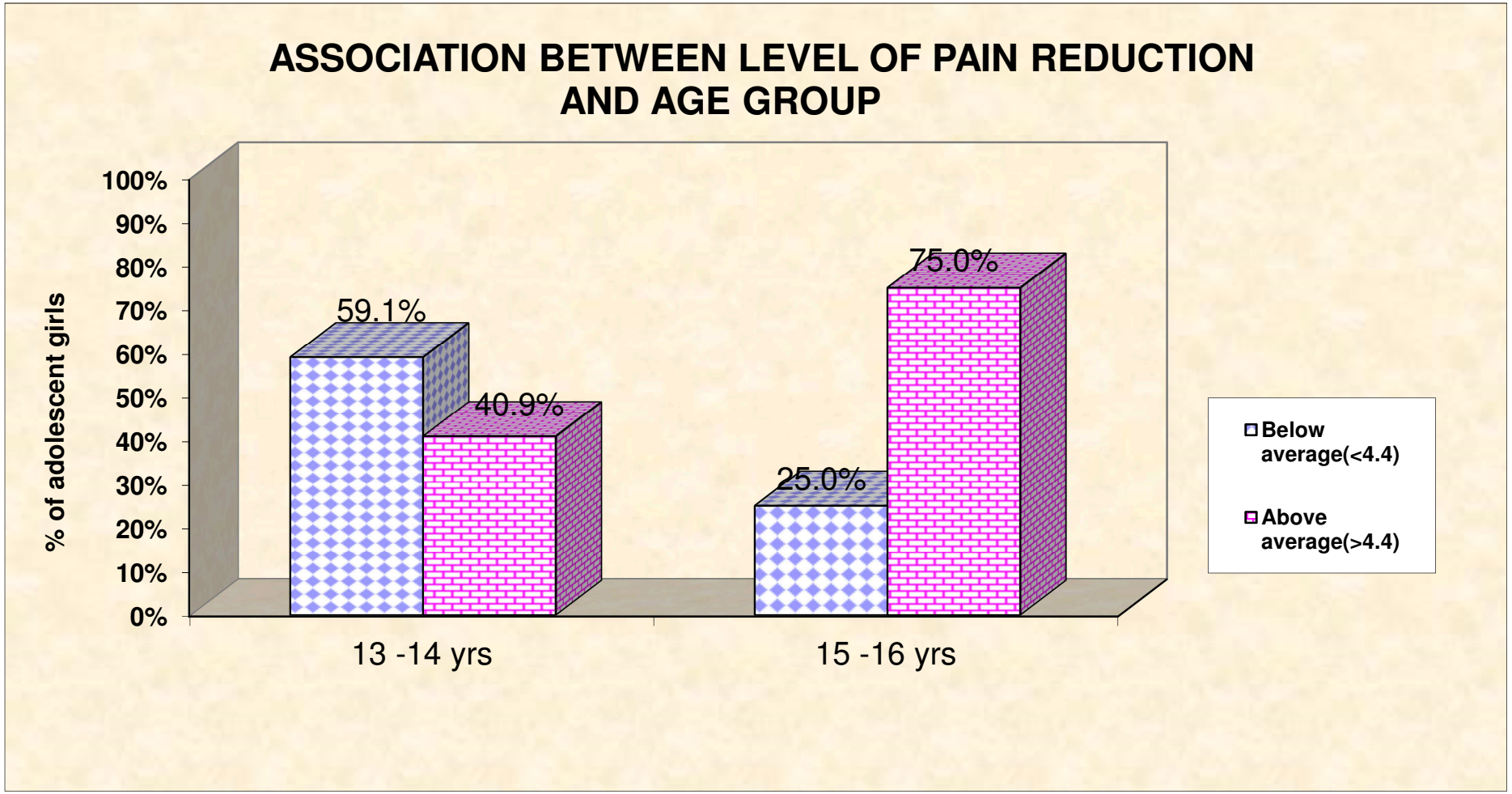



**Figure 15 showed that association between age and pain reduction it shows that age of the participants are hypothetically significant in reducing pain**

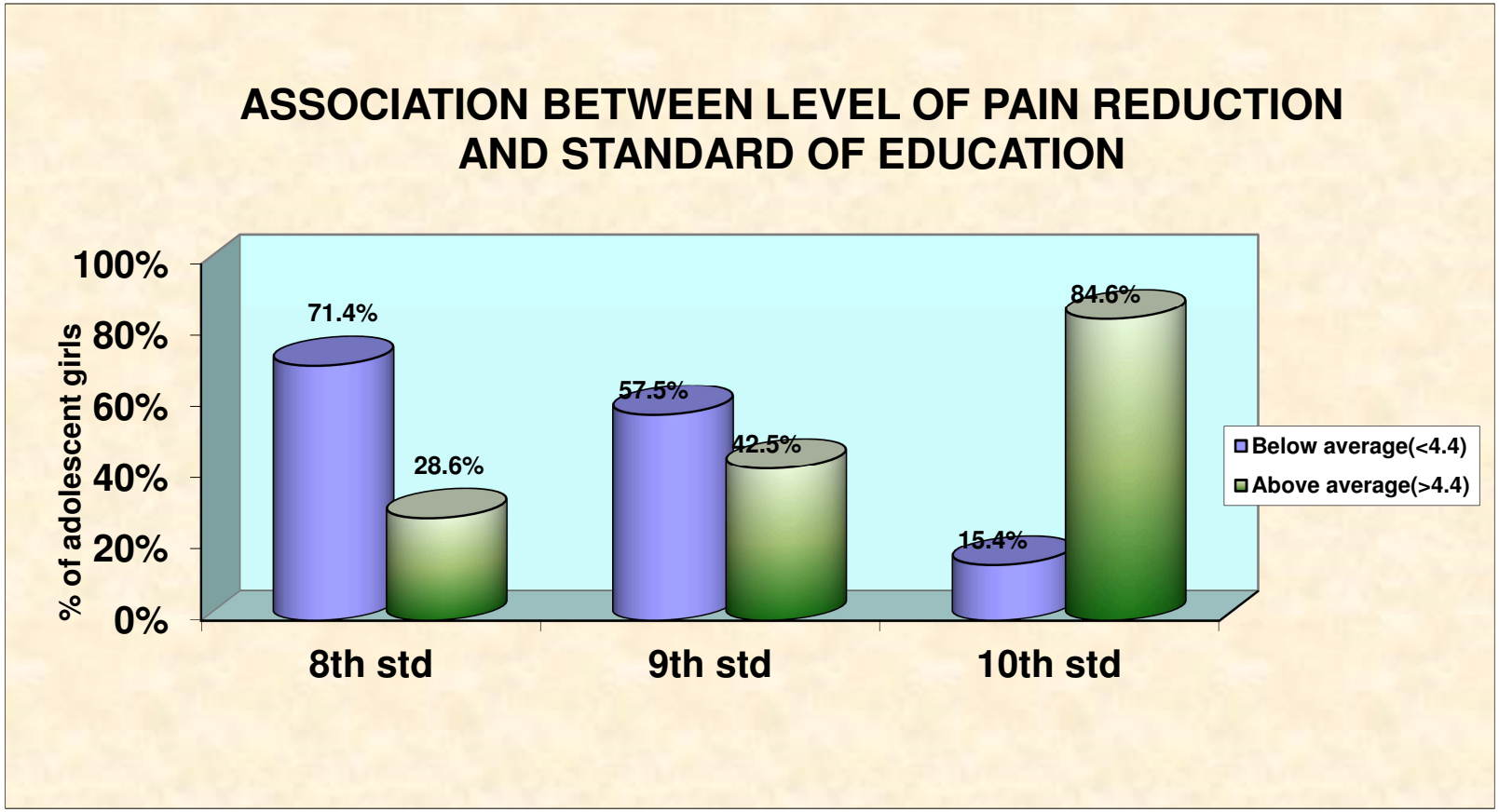



Figure 16 showed the association between educational status of the participants and pain reduction

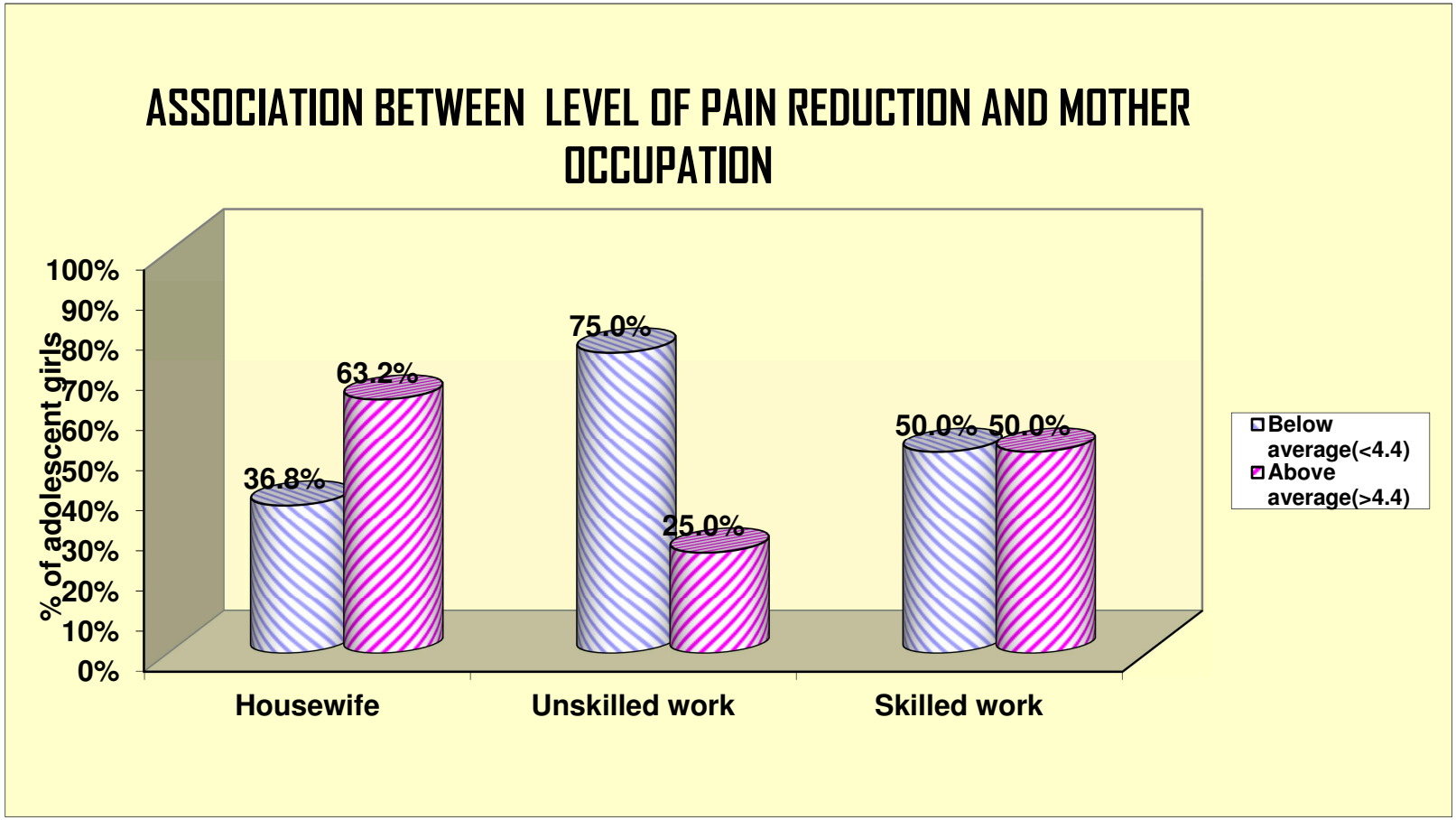



**Figure 17 showed the association between level of pain reduction and mothers occupation**

**Table 13:ASSOCIATION BETWEEN LEVEL PAIN REDUCTION AND ADOLESCENT GIRLS ANTHROPOMETRIC MEASUREMENTS**

| Anthropometric measurements | | Level of pain reduction | | | | Total | Chi square test |
|---|---|---|---|---|---|---|---|
| | | Below average(<4.4) | | Above average(>4.4) | | | |
| | | n | % | N | % | | |
| Weight | 36 -40kg | 16 | 57.1% | 12 | 42.9% | 28 | $\chi 2$=1.07 |
| | 41 -45kg | 14 | 43.8% | 18 | 56.3% | 32 | p=0.30 |
| Height | 111-120 cm | 2 | 66.7% | 1 | 33.3% | 3 | $\chi 2$=0.50 |
| | 121-130 cm | 14 | 46.7% | 16 | 53.3% | 30 | p=0.77 |
| | >130 cm | 14 | 51.9% | 13 | 48.1% | 27 | |

Table 13 shows the association between level of pain reduction and adolescent school girls Anthropometric measurements. Statistical significance was calculated using chi square test.

**Table 14:ASSOCIATION BETWEEN LEVEL PAIN REDUCTION AND ADOLESCENT GIRLS MENSTRUAL CYCLE HISTORY**

| Menstrual history | | Difsc | | | | Total | Chi square test |
|---|---|---|---|---|---|---|---|
| | | Below average(<4.4) | | Above average(>4.4) | | | |
| | | n | % | N | % | | |
| Age of attaining menarchy | 13 -14 yrs | 10 | 35.7% | 18 | 64.3% | 28 | **χ2=4.29p=0.04*** |
| | 15 -16 yrs | 20 | 62.5% | 12 | 37.5% | 32 | |
| Duration of menstrual cycle | 3 - 4 days | 11 | 36.7% | 19 | 63.3% | 30 | **χ2=4.27p=0.04*** |
| | 5 - 6 days | 19 | 63.3% | 11 | 36.7% | 30 | |
| Pain during menstruation | Yes | 30 | 50.0% | 30 | 50.0% | 60 | χ2=1.07 p=0.30 |
| Duration of pain | < 1 hour | 9 | 37.5% | 15 | 62.5% | 24 | **χ2=5.99p=0.05*** |
| | 2 - 3 hour | 12 | 48.0% | 13 | 52.0% | 25 | |
| | 4 - 5 hour | 9 | 81.8% | 2 | 18.2% | 11 | |
| Type of pain | 1 | 4 | 100.0% | 0 | 0.0% | 4 | χ2=6.90 p=0.08 |
| | 2 | 2 | 100.0% | 0 | 0.0% | 2 | |
| | 3 | 12 | 41.4% | 17 | 58.6% | 29 | |
| | 4 | 12 | 48.0% | 13 | 52.0% | 25 | |
| Daily activities interfered with this type of pain | Attending school | 13 | 61.9% | 8 | 38.1% | 21 | χ2=1.83 p=0.33 |
| | Reading | 11 | 44.0% | 14 | 56.0% | 25 | |
| | Doing house hold work | 6 | 42.9% | 8 | 57.1% | 14 | |
| Symptoms accompanying dysmenorrhoea | Joint pain | 2 | 66.7% | 1 | 33.3% | 3 | χ2=1.46 p=0.69 |
| | Head ache | 5 | 50.0% | 5 | 50.0% | 10 | |
| | Irritablility | 8 | 40.0% | 12 | 60.0% | 20 | |
| | Others | 15 | 55.6% | 12 | 44.4% | 27 | |
| Common remedy during dysmenorrhoea | Watching TV | 15 | 48.4% | 16 | 51.6% | 31 | χ2=0.06 p=0.79 |
| | Sleeping | 15 | 51.7% | 14 | 48.3% | 29 | |
| Are you taking any medicine during dysmenorrhoea | Yes | 17 | 53.1% | 15 | 46.9% | 32 | χ2=0.26 p=0.60 |
| | No | 13 | 46.4% | 15 | 53.6% | 28 | |
| If yes, What medicine will you take | Paracetamol | 9 | 69.2% | 4 | 30.8% | 13 | χ2=2.39 p=0.30 |
| | Diclofenac sodium | 5 | 45.5% | 6 | 54.5% | 11 | |
| | Ibuprufen | 3 | 37.5% | 5 | 62.5% | 8 | |
| Flow of menstruation during Dysmenorrhoea | Severe bleeding | 4 | 57.1% | 3 | 42.9% | 7 | χ2=0.19 p=0.91 |
| | Moderate bleeding | 16 | 50.0% | 16 | 50.0% | 32 | |
| | Mild bleeding | 10 | 47.6% | 11 | 52.4% | 21 | |
| Habit of doing Exercise | Yes | 1 | 25.0% | 3 | 75.0% | 4 | χ2=1.07 p=0.30 |
| | No | 29 | 51.8% | 27 | 48.2% | 56 | |

Table 14 shows the association between level of pain reduction and adolescent school girls menstrual cycle history. As far as the table it highlights that pain reduction score has significant association with the Age of attaining menarchy ( $x^2=4.09$) ($P=0.04$), days of menstrual cycle ( $x^2=4.27$) ($P=0.04$) and duration of pain ($x^2=9.71$) ($P=0.02$).Statistical significance was calculated using chi square test.

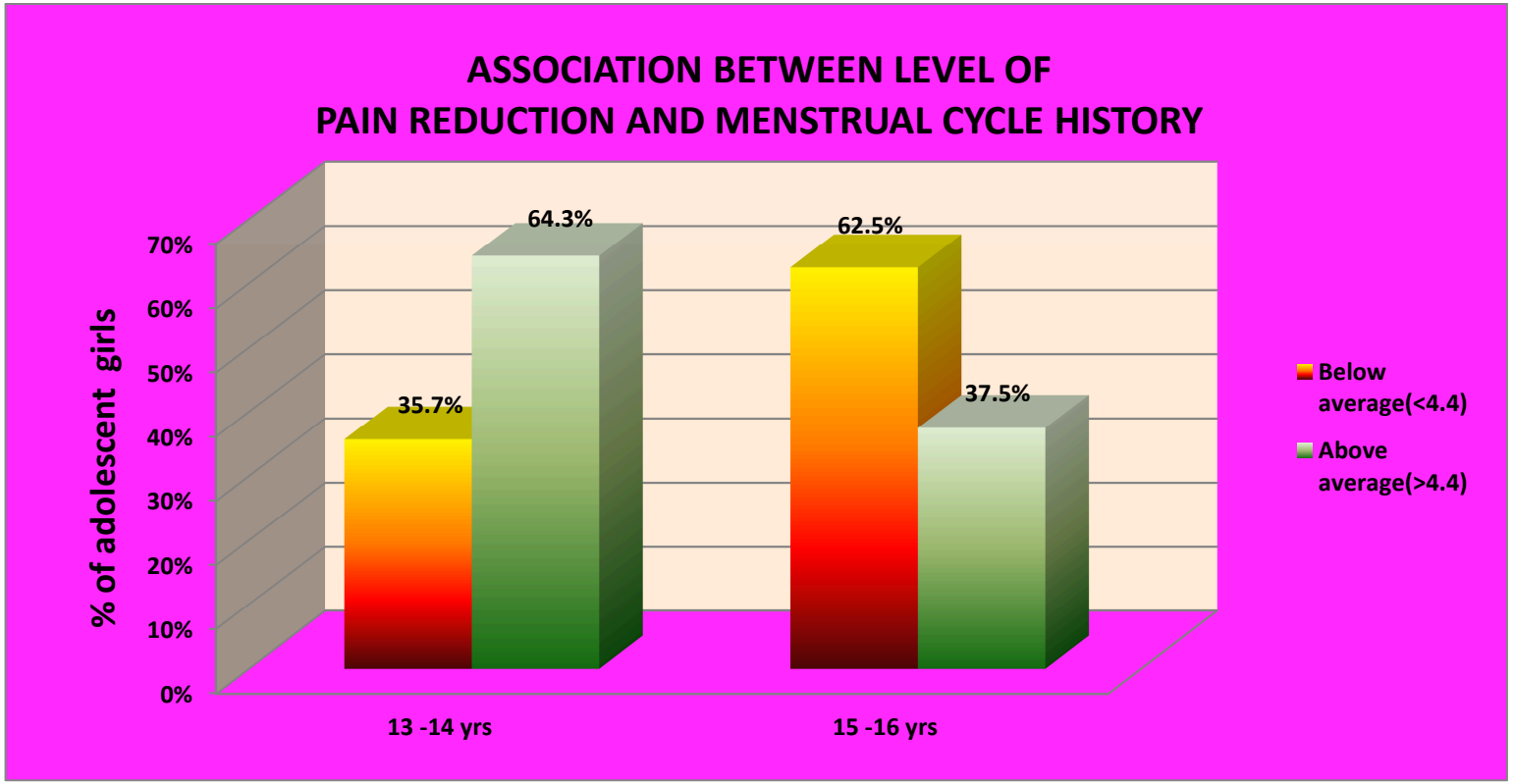



**Figure 18 showed the association between level of pain reduction and menstrual cycle history**

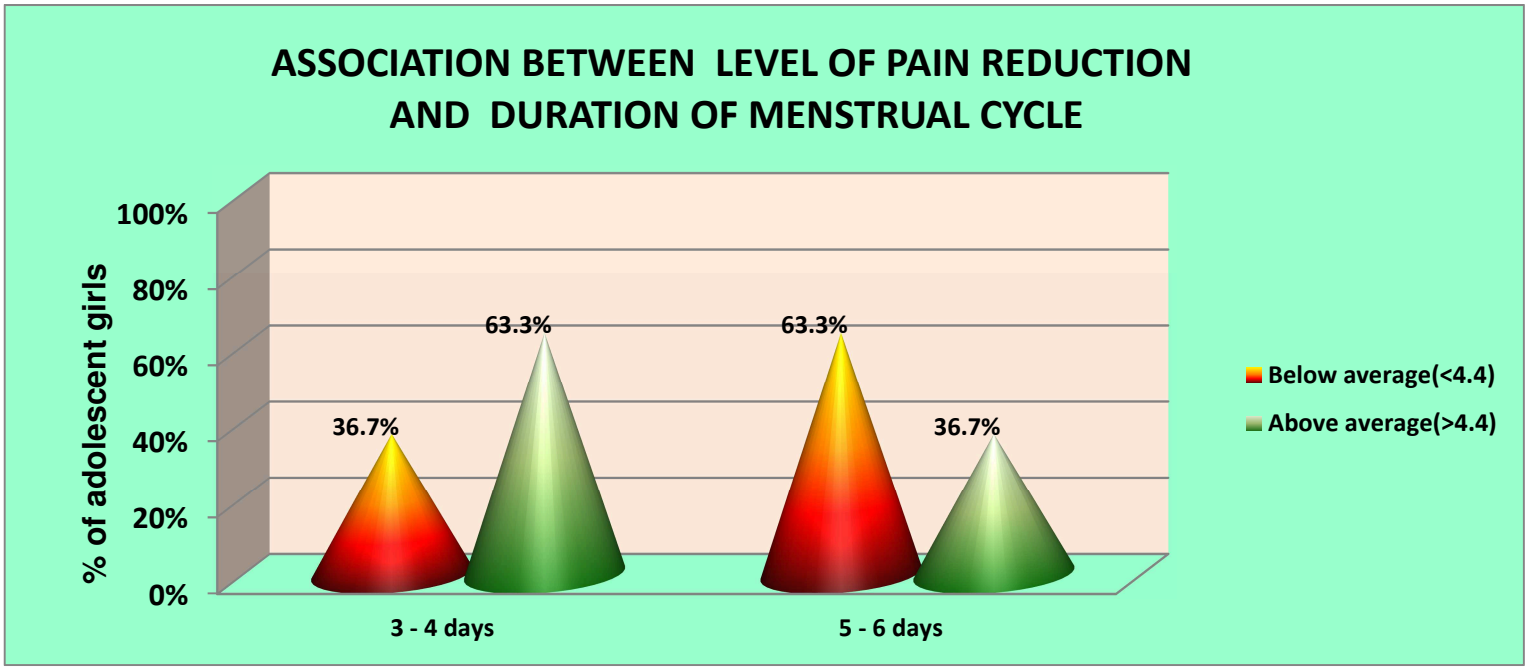



**Figure 19 showed the association between level of pain reduction and duration of menstrual cycle**

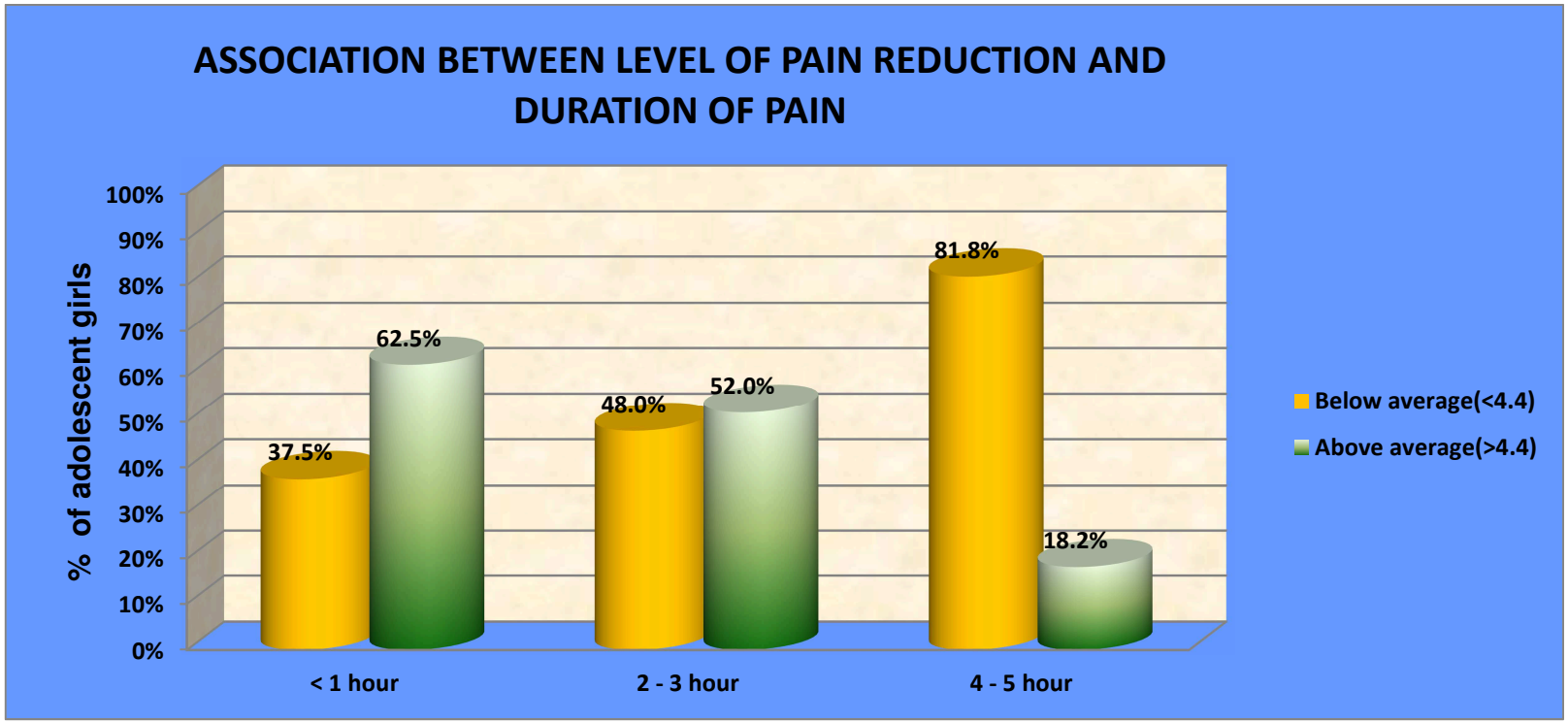



**Figure 20 showed the association between level of pain reduction and duration of pain**

# CHAPTER-V

# DISCUSSION

The study described the effectiveness of pelvic rocking exercise among school girls with dysmenorrhoea at Government Girls Higher Secondary School Egmore Chennai-08.

The sample was 60 adolescent girls. The pretest was conducted to assess the pain score during dysmenorrhoea and the girls were made to do pelvic rocking exercise with Swiss ball for the duration of four weeks. Post test assessment of pain of the same girls was done.

The data consists of three sections, first section contains the demographic profile, the second section contains the pain assessment scale, and the third section consists of effectiveness of pelvic rocking exercise. Data analysis and interpretation were done by using frequencies, percentage, mean and standard deviation, chisquare test, student's paired t-test.

The result of the study were discussed based on the objectives and the following supportive studies.

In the study majority of girls with primary dysmenorrhoea belongs to low income group. Their mothers are maximum of primary school education. Their fathers are mostly of labours and mothers are of house- wives.

They were not specially focused for their diet as they belongs to low income group and they have not been taught about the preventive aspects several solutions to be followed in primary dysmenorrhoea.

According to the study result it was found that majority of adolescent girls attain menarche at the age of 13-14 years. As they first attain menarchy, ceremony was celebrated for the girl and said to the girl that she become matured and all house hold burden was given to girls. They mainly act for house hold work of the family. The stress and burden of girls was increased immediately after their menarchy.

Adolescent girls were not allowed to enter into holy places such as temple and they were not allowed to look at mirror and pour water to plants. Thus they were not allowed to involve in any diversional therapy for their pain by these ways.

Nearly less than half the proportion of the girls (41.7%) have duration of pain for 2-3 hours\day and girls mostly are unable to perform well in school.

The study reported that the adolescent girls do not eat properly and drink water. The adolescent girls feel lonely and they are not takecare during this stressful period as their parents are busy all the time and involved in their work.

Most of the girls experiencing pain used to take painkillers such as, Tab. Paracetamol to overcome the problem. They seek allopathy and some use heating pads on the abdomen for the problem.

Majority of adolescent girls were unaware of the exercise and its effectiveness in dysmenorrrhoea.

The present study was supported by the Agarwal (2010) who interpreted that Adolescent girls routine daily activities were affected by dysmenorrhoea and they were depressed.

**The first objective of the study was to assess the level of pain during primary dysmenorrhoea among school girls before pelvic rocking exercise**

The investigator faced that the majority of adolescent girls (48.3%) has pain of sharp type felt and it was severe. Some of the girls (41.7%) experienced troublesome pain and they do not even sit, stand or do any work.

Few adolescent girls who has got menstruation during school period, were taken by their parents to their home by auto or vehicle. Girls in this stage feel the pain as terrible and curse god as “why this pain to only girls”. They feel that they are not able to compete with boys equally in education and sports activities because of dysmenorrhoea.

The adolescent girls with this pain absent themselves from classes and exam. They are not able to comple their assignments given in the school. They feel irritated and shouts at friends without any reason. This pain even makes the adolescent girls to be more sensitive and anxious personality.

Some girls (6.7%) experienced jumping type of pain. The girls experience it in the early morning and the pain is accompanied with more blood flow and during this period the adolescent girls feel scared to eat food also. Since they feel the pain was severe and blood flow was more after eating food.

The girls experienced prickling pain (3.3%) . Those time the adolescent girls feel and hesitate to get up from sleeping area.

This present study was supported by the study conducted by Anamika (2008) at New Delhi. The findings showed the adolescent girls (63%) experienced dysmenorhoea and pain. She interpreted that the unattended girls with dysmenorrhoea have loss in quality of life.

**The second objective of the study is to assess the level of dysmenorrhoea among adolescent girls after pelvic rocking exercise**

First the girls were explained regarding pelvic rocking exercise with swiss ball and advantages of using this ball was explained to girls.

The girls first felt shy to sit on the ball and do the exercise. They laughed at each other and slowly the girls agreed to sit on the ball and did the exercise by knowing the advantages of exercise.

Then girls sit on the ball and the exercise was performed by them. They felt happy and enjoyed themselves and had fun in doing the exercise.

After performing exercise everyday the girls felt relaxed and had relief of back pain in that instant. Atmost they felt happy in doing the exercise. Girls regularly do their exercise as per the schedule given and really they felt interested in doing exercise.

The study findings also revealed that there was a good pain reduction mean score after pelvic rocking exercise from 6.68% to 2.30%

After exercise, during their next menstruation, they had led the daily activities in normal way . They did have any disturbances in their daily activities. None of them had jumping and pricking pain.

They were benefited by the exercise and comfortable to sit on ball and do the exercise. But some claimed to investigator that the parents won't spent money to buy this kind of ball. So the investigator demonstrated a way to do the pelvic rocking exercise without ball in their home in three positions (lying, standing and sitting).

Some elicited the parents won't allow to waste time to do the exercise and the investigator explained the importance of exercise to the parents.

**The third objective of the study is to associate the level of dysmenerrhoea with selected demographic variables of adolescent girls after pelvic rocking exercise.**

In the present study the investigator found out that the girls who has less duration of pain have good pain reduction than others. The girls with less duration of pain exercise regularly with positive approach had good pain reduction score.

The school adolescent girls in the age group between 13-14years has better pain reduction score. The same take place in educated parents also.

The parent study was supported by study conducted by Gulsen Erylimas (2010) in the effect of dysmenorrhoea and social attitude changes and it shows the positive relationship between pain duration, severity and school performance.

Thus the investigator found that there should be comprehensive school health education programme to the parents and the adolescent girls to improve the quality of life of adolescent girls. The school curriculum can be updated in order to educate young girls on this important issue.

# CHAPTER-VI

# SUMMARY, CONCLUSION, IMPLICATION, RECOMMENDATION AND LIMITATION

This chapter deals with summary, conclusion, implication and recommendation of the study.

## SUMMARY

The investigator undertake the study to assess the effectiveness of pelvic rocking exercise among adolescent girls with dysmenorrhoea at Government higher secondary school, Egmore.

### *The objectives of the study*

- To assess the prevalence of primary dysmenorrhoea among adolescent girls.
- To assess the level of dysmenorrhoea among school girls before pelvic rocking exercise.
- To assess the level of dysmenorrhoea among school girls after pelvic rocking Exercise.
- To associate the level of dysmenorrhoea and the selected demographic Variables of school girls before and after pelvic rocking exercise.

Review of literature was done from primary and secondary sources that formulated the basis of selection of problem, formulation of tool and conceptual framework.

The conceptual framework was based on the Modified Donabedian's model. It is the correct model prescribed to achieve the objectives of the study.

The research design used in this study was one group pre and post experimental design.

The tool consist of demographic variables, structured questions, Modified McGill Pain Questionnaire, pelvic rocking exercise with Swiss ball to reduce the pain in dysmenorrhoea.

The pilot study was done in IX th C section in Government Girls Higher Secondary School, Egmore at Chennai with 6 samples and showed high consistency, reliability of tool was assessed by using and its correlation coefficient value is 0.88. The study was found to be practicably feasible to proceed with the main study.

The main study was conducted on 60 adolescent girls at Government Girls Higher Secondary School, Egmore at Chennai for the duration of 4 weeks.

The samples were selected on the basis of simple random sampling technique.

The data collected was analyzed and interpreted based on the objectives using descriptive and inferential statistics.

**THE MAJOR FINDINGS OF THE STUDY**

The study finding reveals demographic characteristics of 60 adolescent girls who participated in this study among which majority of the girls with dysmenorrhoea are in the low income group and majority of their fathers and mothers have primary education. Majority of fathers occupation were unskilled work and their majority of the mothers are housewives. Majority of the girls are having weight of 41-45kg. The severe pain level of dysmenorrhoea before pelvic rocking exercise is 41.7%. The severe pain level of dysmenorrhoea after pelvic rocking exercise of 0% the pain level has decreased from 41.7% to 0%.The girls who have less duration of pain have more reduction in pain score than others. School girls with housewife mothers and more educational status are having more reduction in pain score than others.

## CONCLUSION

Dysmenorrhoea is a major adolescent problem remains a major health problem in India. Since nurses have a key role in preventive, curative, rehabilitative aspects of healthcare. Nursing personnel should educate the girls so that the quality of life will be improved. The intervention was found to be very effective in prevention of dysmenorrhoea among adolescent girls.

## NURSING IMPLICATION

The study has implication on nursing practice, nursing administration, nursing education and nursing research.

## IMPLICATION FOR NURSING PRACTICE

We are moving from curative aspects to preventive aspect which is more client oriented. In the present era of cost quality effective quality nurses have a major role in preventing dysmenorrhoea. Nurses can do early assessment of dysmenorrhoea pain and by intervention nurses can improve the quality of life of adolescents. Nurses can demonstrate the pelvic rocking exercise to adolescent girls in the community. So that the exercise can regularly added to protocols in schools to practice. So the quality of life of adolescent girls can be improved by preventing school absenteeism.

## IMPLICATION FOR NURSING ADMINISTRATION

The nurse administrator should be involved in planning, policy making, and providing in service education and to ensure proper standards of practice with regular supervision. Appropriate nurses who are capable and specialized of imparting information will promote trust and confidence among the health care consumers. Audiovisual aids regarding pelvic rocking exersice can be prepared and given to girls.

## IMPLICATION FOR NURSING EDUCATION

The student nurses can be taught regarding the importance of preventing dysmenorrhoea in the early stage and they can be taught the procedure of exercise in the curriculum of school education.

## IMPLICATION FOR NURSING RESEARCH

As dysmenorrhoea continues to the adolescent of our country, the researchers can carried out on this topic, its treatment and prevention based on this present study. Also other effective exercise intervention protocols can be prepared for the benefit of the society.

## RECOMMENDATION

The study recommends the following for further research

- A similar experimental design can be done with more samples and also a larger period of time.
- A study can be conducted to find out the knowledge of girls regarding dysmenorrhoea and its prevention.
- A study can be under taken to find out the risk factor of dysmenorrhoea.
- A comparative study can be done to compare the intervention of exercise with other home remedies.

## BIBLIOGRPHY

### TEXT BOOKS


1) Anonymous, B. (1985). *Premenstrual syndrome and* dysmenoorhoea (ed.3rd). Baltimore: Urban and schwar-zenbery publication.

2) Charles,R.(2009).Textbook of Obstetric: Gynecology(ed.2nd). Philadelphia Lippincott Publication.

3) Dawn, CS,(1990). *Textbook of Gynecology and Contraception* (ed.10th) Calcutta: Dawn Books publication.

4) Decherney ,A.(1995). *Current review of Obstetrics and Gynecology* (ed.5th). Philadephia: Current Science Limited.

5) Ethel,S.(2002).*Biology of women*(ed.4th).Calcutta: Elsevier Publication.

6) Greer, A.(2001). *Text book of Obstetrics and Gynecology* (ed.1st) Edinburg:Mosby publications.

7) Heywood,S.(2009).dysmenorrhoea(ed.10th). Edinburg: Churchill Publications.

8) Jeffcoate ,MS. (1975).*Principles of Gynecology* (ed.4th). London: Butterworths publication.

*9)* Knish,R. (1985).Dysmenorrhoea*: A historical prospective, premenstrual syndrome* .(ed.6th).Baltimore:Urban and Schwarzenberg Publication.

10) Parsons ,L. (1978).*Text book of Gynecology* (ed.2nd). Philadelphia: WB.Saunder's Company.

11) Sacala, M.(2000). *Obstetrics and Gynecology* (ed.2nd). Philadelphia: Lippincott Williams Publications.

12) Stephen,B.92004).Pediatric decision MAKING D.2ND).Mumbai: Churcill Publication.

13) Wentz,CA.(1988). *Novak's textbook of Gynecology* (ed. 9th). Baltimore:Williams and Wilkins Publications.

14) Williams,S.(2002).Five Minute Pediatric Consult (ed.2nd). Philade: Lippincott Publications.

15) Yusuf,M.(1981).Dysmenorrhoea (ed.3rd).Michigan: Wilkins and Wilkins Publications.

**JOURNALS**

16) Aganoff, J. and Boyle. (1994). Aerobic exercise, mood states and Menstrual cycle symptoms, Journal of Psychosomatic medicine.

17) Agarwal, A.(2008). Menstrual Problems in Adolescent girls. Journal of community health nursing.

18) Andersch,B.(1981). An epidemiologic study of young women with Dysmenorrhoea. American journal of obstetrics and Gynecology.

19) Balbach, L.(2002).What is aerobic exercise, and why I should do it? Journal of health and fittneess home.

20) Brown ,J.(2010). Effectiveness of pelvic rocking exercise among Adolescent girls with dysmenorrhoea. British journal of Obstetrics and Gynecology.

21) Burnett,MA.(2005). Prevalence of primary dysmenorrhoea in canada, Journal of Obstetrics Gynecology.

22) Coco. (1999). A Primary Dysmenorrhoea. American Family Physician Journal.

23) Daley,AJ.(2008). Exercise and Primary dysmenorrhoea: a comprehensive And critical review of the literature. *Journal of Sports Medicine.*

24) Darwood,MY.(1990). Dysmenorrhoea. Journal of clinical and Obstetrics and Gyanecology.

25) Davis, A.(2006). Self-treatment patterns among adolescent girls with dysmenorrhoea. Journal of Pediatrics and adolescent gynecology.

26) French,L.(2005). Study on dysmenorrhoea,American academy of Family Physicians. Journal of Postgraduates.

27) Ganon,L.(1986). The potential of exercise in the alleviation of Menstrual disorders and meno-pausal symptom. Journal of Women Health.

28) George,A.(2002). Dysmenorrhoea among adolescent girls-symptoms experienced during menstruation. Journal of Health Promotion and education

29) Gilany,AH.Epidemiology of dysmenorrhoea adolescent students in Mansoura. Journal of East Meditarrean Health.

30) Godin,G.(2001). A simple method to assess exercise behavior in the community. Journal of Applied Sports Science.

31) Goldstein-FERBER,s.(2006). The association between somatization and perceived ability: Roles in dysmenorrhoea among Israeli Arab adolescent Journal of Psychosocial Medicine.

32) Golub,LM.(1998). Primary dysmenorrhoea and physical activity. Journal of sports exercise and medicine.

33) Harlow,SD.(1996). A longitudinal study of risk factors for the occurrence, duration and severity of menstrual cramps in a cohort of college women. British. Journal of Obstetrics and Gynecology.

34) Israel,R.(1986). Effects of aerobic training on primary dysmenorrhoea in college females. American Journal of College Health.

35) Izzo,A.(1998). Dysmenorrhoea and sport activity inadolescents. Clinical Obstetrics and Gynecology.

36) Jayashree,R.(1997). Socio-cultural dimensions of menstrual problems. Journal of Health Education in South East Asia.

37) Latthe,P.(2006). Factors predisposing women to chronic pelvic pain: Systematic review, *British Medical Journal.*

38) McKay,L.Diem E.(1995). Concerns of adolescent girls. Journal of Pediatric Nursing.

39) Metheny, W.(1989). The relationship among exercise, stress, and Primary Dysmenorrhoea. Journal of behavior medicine.

40) Nag,RM.(982). Adolescent in India. Calcutta: Medical Allied Agency

41) Nair,P.(2007). Awareness and practices of menstruation and pubertal changes amongst unmarried female adolescents in a rural area of East Delhi. Indian Journal of Community Medicine.

42) Sundell,G.(1990). Factors influcening the prevalence and severity of dysmenorrhoea in young women, British Journal of Obstetrics and Gynecology

43) Tzafettas,J.(2006). Painful menstruation. Journal of Pediatric Endocrinology.

44) Waite,LJ.(1981). US women at work. Population Bull.

45) Wang,LJ.(2004). Stress and dysmenorrhoea: A population based Prospective study, British Journal of Obstetrics and Gynecology.

NET REFERENCES

47) www.aafp.com.

48) www.biogetica.com.

49) www.britannica.com.

50) www.cleveandclinic.com.

51) www.healthscout.com.

52) www.mayoclinic.com.

53) www.medicinenet.com.

54) www.nodysmenorrhoea.com.

55) www.science direct.com.

56) www.sprringlink.com.

## STRUCTURED QUESTIONAIRE

## PART-I

## DEMOGRAPHIC DATA

1. Age

a. 11to 12 years ☐

b. 13to 14 years ☐

c. 15to16 years ☐

d. 17to18 years ☐

2 .Education

a. VIII standard ☐

b. IX standard ☐

c. X standard ☐

d. XI standard ☐

e. XII standard ☐

3. Religion

a. Hindu ☐

b. Muslim ☐

c. Christian ☐

d. Others ☐

4.Family Income

a. Rs 2000 to 4000 per month ☐

b. Rs 4001 to 6000 per month ☐

c. Rs 6001 to 8000 per month ☐

d. Rs 8001 to 10000 per month ☐

5. Fathers Education

a. non formal education ☐

b . primary education ☐

c. middle school level ☐

d. high school level ☐

e. higher secondary level ☐

f. graduate ☐

g. post grduate ☐

6. Mothers Education

a. non formal education ☐

b. primary education ☐

c. middle school level ☐

d. high school level ☐

e. higher secondary level ☐

f. graduate ☐

g. post graduate ☐

7. Fathers occupation

a. unemployed ☐

b. unskilled work ☐

c. skilled work ☐

d. professional ☐

8. Mother occupation

a. house wife ☐

b. unskilled work ☐

c. skilled work ☐

d. professional ☐

## PART-II

## STRUCTURED QUESTIONNAIRE

## SECTION-I - ANTHROPOMETRIC MEASUREMENT

1. Weight

a. 30kg to 35 kg ☐

b. 36kg to 40kg ☐

c. 41kg to 45kg ☐

d. 46kg to 51kg ☐

2. Height

a. below 110cm ☐

b. 111 to 120cm ☐

c. 121cm to 130cm ☐

d. above 131cm ☐

## SECTION-II

## MENSTRUAL CYCLE AND PAIN

1. At what age did you attain menarchy?

a. 11 to 12 years ☐

b. 13 to 14 years ☐

c. 15 to 16 years ☐

d. 17 to 18 years ☐

2. What is the duration of your menstrual cycles?

a. 3 to 4 days ☐

b. 5 to 6 days ☐

c. 7 to 8 days ☐

d.9 to 10 days ☐

3. Do you have pain during menstruation?

a. yes ☐

b. no ☐

4. If yes is the duration of pain you will have for a day?

a. less than 1 hour ☐

b. 2 hours to 3 hours ☐

c. 4 hours to 5 hours ☐

d. cramping ☐

5. What daily activities are interfered with this type of pain?

a. bathing ☐

b. attending school ☐

c. reading ☐

d. doing house hold work ☐

6. What other symptom will you experience accompanying dysmenorrhoea?

a. joint pain ☐

b. head ache ☐

c. irritability ☐

7. What is the commonest remedy you follow during dysmeorrhoea?

a. Watching television ☐

b. Sleeping ☐

c. Taking warm bath ☐

d. Exercise ☐

8. Type of family

a. Nuclear family ☐

b. Joint family ☐

c. Extended family ☐

9. Family history of Dysmenorrhoea

a. Yes ☐

b. No ☐

10. Are you taking any medicine during dysmenorrhoea ?

a. Yes ☐

b. No ☐

10. If yes, Mention the Medicine name

a. Paracetamol ☐

b. Diclofenac sodium ☐

c. Ibuprufen ☐

d. Others ☐

11. Mention the flow of menstruation during dysmenorrhoea

a. severe bleeding ☐

b. moderate bleeding ☐

c. mild bleeding ☐

d. scanty ☐

12. Habit of doing exercise

a. Yes ☐

b. No ☐

## MCGILL PAIN QUESTIONNAIRE

***CIRCLE ONLY THE WORDS THAT DESCRIBE YOUR PAIN***

| ***S.No*** | ***Nature of pain*** | ***Scoring*** |
|---|---|---|
| *1.* | *Jumping* | *1* |
| *2.* | *Pricking* | *2* |
| *3.* | *Sharp* | *3* |
| *4.* | *Troublesome* | *4* |
| *5.* | *Nauseating* | *5* |
| *6.* | *Pulling* | *6* |
| *7.* | *Crushing* | *7* |
| *8.* | *Beating* | *8* |
| *9.* | *Shooting* | *9* |
| *10.* | *Killing* | *10* |

வடிவமைக்கப்பட்ட நேர்காணல்

கேள்விகளின் தொகுப்பு

விபரங்கள் யாவும் உங்களைப்பற்றியது

தெளிவாக எழுதவும் - மொழிவழி - தமிழ்

சரியான விடைகளில் (√) **குறியிடவும்**

வரிசை எண்

1. வயது

அ. 11-12 வயது ( )
ஆ. 13-14 வயது ( )
இ. 15-16 வயது ( )
ஈ. 17-18 வயது ( )

2. கல்வித்தகுதி

அ. 8 ம் வகுப்பு ( )
ஆ. 9 ம் வகுப்பு ( )
இ. 10 ம் வகுப்பு ( )
ஈ. 11 ம் வகுப்பு ( )
உ. 12 ம் வகுப்பு ( )

3. மதம்

அ. இந்து ( )
ஆ. கிறிஸ்தவர் ( )
இ. முஸ்லிம் ( )
ஈ. மற்றவை ( )

4. குடும்ப மாத வருமானம்

அ. ரூ 2000 – 4000 வரை ( )
ஆ. ரூ 4001 – 6000 வரை ( )
இ. ரூ 6001 – 8000 வரை ( )
ஈ. ரூ 8001 – 10,000 வரை ( )

5. தந்தையின் கல்வித்தகுதி

அ. அடிப்படைக்கல்வி ( )
ஆ. ஆரம்பக்கல்வி ( )
இ. நடுநிலைக்கல்வி ( )
ஈ. உயர் நிலைக்கல்வி ( )
உ. மேல் நிலைக்கல்வி ( )
ஊ. பட்டப்படிப்பு ( )

6. தாயின் கல்வித்தகுதி

அ. அடிப்படைக்கல்வி ( )
ஆ. ஆரம்பக்கல்வி ( )
இ. நடுநிலைக்கல்வி ( )
ஈ. உயர் நிலைக்கல்வி ( )
உ. மேல் நிலைக்கல்வி ( )
ஊ. பட்டப்படிப்பு ( )

7. தந்தையின் தொழில்

அ.வேலை இல்லை ( )
ஆ. கடின வேலை ( )
இ. மித வேலை ( )
ஈ. தொழில் நுட்ப வேலை ( )

8. தாயின் தொழில்

அ.வேலை இல்லை ( )
ஆ. கடின வேலை ( )
இ. மித வேலை ( )
ஈ. தொழில் நுட்ப வேலை ( )

9. குடும்ப வகை

அ. தனிக்குடும்பம் ( )
ஆ. கூட்டுக்குடும்பம் ( )
இ. விரிவான குடும்பம் ( )

10. உங்கள் குடும்பத்தில் யாருக்கேனும் மதவிடாயின் போது வலி இருந்ததா?

அ.ஆம் ( )

ஆ.இல்லை ( )

## பகுதி - II

### பிரிவு – அ

11. எடை

அ.30-35 கிலோ ( )

ஆ. 36 – 40 கிலோ ( )

இ. 41- 45 கிலோ ( )

ஈ. 46 கிலோவுக்கும் மேல் ( )

12. உயரம்

அ.110 செ.மீக்கும் குறைவு ( )

ஆ. 111-120 செ.மீ ( )

இ. 121 130 செ.மீ ( )

ஈ. 131 செ.மீக்கும் அதிகம் ( )

### பிரிவு ஆ

**1.** எந்த வயதில் மாதவிடாய் அடைந்தீர்கள்?

அ. 10-11 வயது ( )

ஆ. 12-13 வயது ( )

இ.14-15 வயது ( )

ஈ. 16-17 வயது ( )

**2.** உங்களுக்கு மாதவிடாய் எத்தனை நாட்களுக்கு இருக்கும்?

அ. 3-4 நாட்கள் ( )

ஆ. 5-6 நாட்கள் ( )

இ. 7-8 நாட்கள் ( )

ஈ. 8 நாட்களுக்கும் மேல் ( )

**3.** உங்களுக்கு மாதவிடாயின் போதுவலி இருக்கிறதா?

அ.ஆம் ( )

ஆ.இல்லை ( )

4. ஆம் என்றால் எவ்வளவு மணி நேரம் உங்களுக்கு ஒருநாளுக்கு வலி இருக்கும்?

அ.1 மணி நேரத்திற்கும் குறைவாக ( )

ஆ.2 – 3 மணி நேரம் ( )

இ. 4-5 மணி நேரம் ( )

ஈ. 6-7 மணி நேரம் ( )

5. எந்த விதமான வலி உங்களுக்கு இருக்கும்?

அ. கடினமான வலி ( )

ஆ.குறைந்த வலி ( )

இ. விட்டு விட்டு வரும் வலி ( )

ஈ. இழுத்துப் பிடித்து வலித்தல் ( )

6. வலியினால் தினமும் செய்யும் வேலையில் எது தடைப்படுகிறது?

அ.குளியல் ( )

ஆ.பள்ளிக்கு செல்வது ( )

இ. படிப்பது ( )

ஈ. வீட்டு வேலை செய்வது ( )

7. மாதவிடாய் வலியின் போது வெறு எந்த அறிகுறிகளை உணர்வீர்கள்?

அ. மூட்டு வலி ( )

ஆ .தலை வலி ( )

இ. எரிச்சல் ( )

ஈ. முதுகு வலி ( )

8. மாதவிடாய் வலியின் போது எதைச் செய்து வலியை மறப்பீர்கள்?

அ. தொலைக்காட்சியை பார்ப்பது ( )

ஆ. தூங்குவது ( )

இ. வெதுவெதுப்பான நீரில் குளிப்பது ( )

ஈ. மற்றவை (குறிப்பிடுக) ( )

***9.*** *மாதவிடாய் வலியின் போது ஏதாவது மருந்து உட்கொள்வீர்களா?*

அ. ஆம் ( )

ஆ. இல்லை ( )

***10.*** *ஆம் எனில், எந்த மருந்தை உட்கொள்வீர்கள்?*

அ. பாரசிட்டமால் மாத்திரை ( )

ஆ. டைக்ளோபினாக் சோடியம் மாத்திரை ( )

இ. இபுப்ரொபின் மாத்திரை ( )

ஈ. மெபனாபிக் ஆசிட் மாத்திரை ( )

உ. மற்றவை *(குறிப்பிடவும்)* ( )

***11.*** *மாதவிடாய் வலியின் போது ரத்தப்போக்கு எப்படி இருக்கும்?*

அ. அதிகமாக *(ரத்தக் கட்டிகளுடன்)* ( )

ஆ. நடுத்தரமாக *( 6 நாப்கின்/ நாள்)* ( )

இ. மிதமக *(3-4 நாப்கின்/ நாள்)* ( )

ஈ. மிகவும் மிதமாக ( )

***12.*** *உங்களுக்கு உடற்பயிற்சி செய்யும் பழக்கம் உள்ளதா?*

அ. ஆம் ( )

ஆ. இல்லை ( )

மாற்றப்பட்ட மெக் கில் வலி அளவுகோள்

உங்களுடைய வலியைக் குறிக்கும் வார்த்தையை அளிக்க:-

| வ. எண் | வலியின் தன்மை | அளவு |
|---|---|---|
| 1. | ஒரு இடத்திலிருந்து மற்றொரு இடத்திற்கு மாறும் வலி | 1 |
| 2. | குத்தும் வலி | 2 |
| 3. | கடுமையன வலி | 3 |
| 4. | தொந்தரவு தரக்கூடிய வலி | 4 |
| 5. | குமட்டலுடன் கூடிய வலி | 5 |
| 6. | இழுத்துப் பிழியும் வலி | 6 |
| 7. | கசக்கி பிழியும் வலி | 7 |
| 8. | அடித்தல் போன்ற வலி | 8 |
| 9. | தீவிர தாங்கமுடியாத வலி | 9 |
| 10. | கொல்லும் வலி | 10 |

அட்டவணை

இடுப்பு பயிற்சி செய்யும் வழிமுறைகள்

| வ. எண் | இடுப்பு பயிற்சி செய்யும் வழிமுறைகள் | ஆம் | இல்லை |
|---|---|---|---|
| 1. | நான் பந்தில் நேராக கால் கீழே படியும் படி அமர்ந்தேன் | | |
| 2. | என்னுடைய முட்டிகளை வளைக்காமல் வைத்தேன் | | |
| 3. | நான் உட்கார்ந்த நிலையில் பந்தில் குறித்து பார்த்தேன் | | |
| 4. | பின்பு பந்தில் அமர்ந்து என் இடுப்பை நன்றாக சுற்றினேன் | | |
| 5. | இதைப் போல் 160 முறை செய்தேன் | | |

**INSTITUTIONAL ETHICS COMMITTEE**
**MADRAS MEDICAL COLLEGE, CHENNAI -3**

EC RegNo.ECR/270/Inst./TN/2013 Telephone No:044 25305301
Fax : 044 25363970
Date:15.07.2013

**CERTIFICATE OF APPROVAL**

To
S.Jothiyammal,
M.Sc.,(N) II year,
College of Nursing,
Madras Medical College, Chennai-3.

Dear S.Jothiyammal

The Institutional Ethics committee of Madras Medical College, reviewed and discussed your application for approval of the proposal entitled "A study to assess the effectiveness of pelvic rocking exercise in primary dysmenorrhoea among adolescent school girls at Government Girl's higher secondary school, Egmore, Chennai " No.18072013.

The following members of Ethics Committee were present in the meeting held on 06.07.2013 conducted at Madras Medical College, Chennai -3.

1. Dr.G.SivaKumar, MS FICS FAIS --- Chairperson
2. Prof. R. Nandhini MD -- Member Secretary
   Director, Instt. of Pharmacology ,MMC, Ch-3
3. Prof. Shyamraj MD -- Member
   Director i/c , Instt. of Biochemistry , MMC, Ch-3
4. Prof. P. Karkuzhali. MD -- Member
   Prof., Instt. of Pathology, MMC, Ch-3
5. Prof. Kalai Selvi -- Member
   Prof of Pharmacology, MMC, Ch-3
6. Prof. Siva Subramanian, -- Member
   Director, Instt. of Internal Medicine, MMC, Ch-3
7. Thiru. S. Govindsamy. BABL -- Lawyer
8. Tmt. Arnold Saulina MA MSW -- Social Scientist

We approve the proposal to be conducted in its presented form.

Sd/ Chairman & Other Members

The Institutional Ethics Committee expects to be informed about the progress of the study, and SAE occurring in the course of the study, any changes in the protocol and patients information / informed consent and asks to be provided a copy of the final report.

R Nandini

Member Secretary, Ethics Committee

## CERTIFICATE OF TOOL VALIDATION

This is to certify that the tool constructed by Ms.S.Jothiyammal, M.Sc Nursing II year, College of Nursing, Madras Medical College which is to be used in her study titled **"A Study to assess the effectiveness of Pelvic Rocking Exercise in primary dysmenorrhoea among adolescent School Girls at Government Girl Higher Secondary School, Chennai".**has been validated by the undersigned. The suggestions and modifications given by me will be incorporated by the investigator in concern with their respective guide. Then she can proceed to do the research.

SIGNATURE WITH SEAL

NAME : Dr. M. Geetha

DESIGNATION : Asst. Professor

INSTITUTION : IOG, Egmore, Chennai.

ASSISTANT SURGEON
IOG & Govt. Hospital For Women & Children
Egmore, Chennai-600 008.

PLACE : Chennai

DATE : 7.9.13.

# CERTIFICATE OF TOOL VALIDATION

This is to certify that the tool constructed by Ms.S.Jothiyammal, M.Sc Nursing II year, College of Nursing, Madras Medical College which is to be used in her study titled **"A Study to assess the effectiveness of Pelvic Rocking Exercise in primary dysmenorrhoe among adolescent School Girls at Government Girl Higher Secondary School, Chennai".**has been validated by the undersigned. The suggestions and modifications given by me will be incorporated by the investigator in concern with their respective guide. Then she can proceed to do the research.

16/8/13.

SIGNATURE WITH SEAL

[KANAGAVALLI.P]

NAME : KANAGAVALLI.P

DESIGNATION : READER

COLLEGE : MADHA COLLEGE OF NURSING

PLACE : KUNRATHUR, CHENNAI - 69

DATE : 16.08.2013.

MADHA COLLEGE OF NURSING 16 AUG 2013 CHENNAI - 600 069

சென்னை முதன்மைக் கல்வி அலுவலரின் செயல்முறைகள்,சென்னை–15
ந.க..எண்.5067/ஆ4/2013, நாள்.12.07.2013

பொருள்: சென்னை–03, சென்னை மருத்துவக் கல்லூரியில் M.Sc.,(Nursing) இரண்டாவது வருடம் பயிலும் திருமதி.S.ஜோதியம்மாள் என்பவர் சென்னை–8, எழும்பூர், மாகாண மகளிர் மேல்நிலைப்பள்ளியில் "A study to assess the effectiveness of Pelvic rocking Exercise in primary Dysmenorrhoea among adolescent School Girls at Government Girls Higher Secondary School, Chennai" – என்ற பயிற்சி பெற அனுமதி வழங்குதல் – சார்ந்து.

பார்வை: சென்னை–3, சென்னை மருத்துவக் கல்லூரியில் M.Sc.,(Nursing) இரண்டாவது வருடம் பயிலும் திருமதி.S.ஜோதியம்மாள் என்பவரின் கடிதம் நாள்.10.07..2013.

---

சென்னை–3, சென்னை மருத்துவக் கல்லூரியில் M.Sc.,(Nursing) இரண்டாவது வருடம் பயிலும் மாணவி திருமதி.S.ஜோதியம்மாள் என்பவர் "A study to assess the effectiveness of Pelvic rocking Exercise in primary Dysmenorrhoea among adolescent School Girls at Government Girls Higher Secondary School, Chennai" என்ற ஆய்வை சென்னை–8, எழும்பூர், மாகாண மகளிர் மேல்நிலைப்பள்ளியில் மேற்கொள்ள கீழ்க்கண்ட நிபந்தனைகளின்படி அனுமதி வழங்கப்படுகிறது.

1. பயிற்சி பெறும் மாணவி சார்ந்த பள்ளித் தலைமை ஆசிரியர் அனுகு முறையை பின்பற்றி பயிற்சி மேற்கொள்ளுதல் வேண்டும்.
2. பயிற்சி பெறும் மாணவி, பள்ளி பாட வேளைகள் பாதிக்காமல் பயிற்சி பெறுதல் வேண்டும்.

இந்நிபந்தனைகளின்படி பயிற்சி பெற அனுமதி வழங்கப்படுகிறது. மேலும் பயிற்சி பெறும் நபருக்கு பயிற்சிபெற ஒத்துழைப்பு நல்கிட பள்ளித் தலைமை ஆசிரியர் கேட்டுக்கொள்ளப்படுகிறார்.

முதன்மைக் கல்வி அலுவலர்,
சென்னை.

பெறுநர்
தலைமை ஆசிரியர்,
மாகாண மகளிர் மேல்நிலைப்பள்ளி,
எழும்பூர், சென்னை–8.

நகல்:
திருமதி.S.ஜோதியம்மாள்,
M.Sc., (Nursing) 2nd year,
சென்னை மருத்துவக் கல்லூரி, சென்னை–3.